ENDANGERED AND THREATENED FAUNA SURVEY OF DONA ANA AND SIERRA COUNTIES, NEW MEXICO

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OF

DONA ANA AND SIERRA COUNTIES,
NEW MEXICO

Report to
Bureau of Land Management,
District Office, Las Cruces, New Mexico
in fulfillment of Contract No. NM-030-CT6-818

by
Julie Meents Ordal

December 10, 1976

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INTRODUCTION

Throughout the earth's history there have always been species on the verge of extinction. Indeed, it is a natural phenomenon that some species fail to adapt to long-term changing conditions (climate, etc.) and are replaced by species which are more successful in producing a phenotype that is compatible with the environment.

In the recent past, however, man has greatly influenced and accelerated the decline of many species of organisms by habitat alteration, introduction of toxic substances and human pressure. Only recently have we begun to be aware of our role and accept responsibility for conducting our activities from a biologically sound basis that will ensure the preservation of a diverse environment.

A first step is the identification of those species which are threatened with extinction. This has been accomplished for most higher vertebrates but lower groups remain largely unexamined. A second step toward responsible action is to gather as much information as possible about the organisms in question. By having adequate knowledge of a species' ecology decisions about its management are more likely to benefit its continued survival.

The Endangered Species Act of 1973 is intended to prevent the further decline, and to bring about the restoration, of endangered and threatened species and the habitat upon which they depend. The following report was written to aid the Bureau of Land Management in its responsibility of implementing the intent of this Act. It is

designed to provide basic information about those species considered to be endangered in Dona Ana and Sierra Counties of New Mexico. With this knowledge, public lands can be managed for the maximum benefit of those who depend upon them. This report is not meant to be comprehensive. Detailed field checks are necessary to confirm and supplement the generalized information on important habitats.

METHODS

Species considered here include Federal and State classified endangered and threatened faunal species. Federal species are derived from the Federal Register published September 26, 1975 by the U.S. Fish and Wildlife Service. State species are those listed in the New Mexico State Game Commission's Regulation No. 563, adopted January 24, 1975 and amended May 21, 1976.

Endangered species are those whose prospects of survival or recruitment are currently in jeopardy or are likley to become so within the foreseeable future. In this report, all species noted as "Federal" in the upper right-hand corner of the species' description are considered endangered. State endangered species are divided into two groups: Group 1 includes the species or subspecies whose prospects of survival or recruitment in New Mexico are now in jeopardy; Group 2 involves species or subspecies whose prospects of survival or recruitment are likely to be in jeopardy within the foreseeable future.

A review of pertinent literature was conducted to determine the occurrence and status of any State or Federally classified endangered and threatened faunal species in Dona Ana and Sierra Counties, New Mexico. In addition, individuals and agencies with specific knowledge of endangered species were consulted for unpublished or undocumented data.

Based on this information, summaries of each species' important

habitat[1], distribution, and current status were prepared. Maps for each species are based on reported sightings or collections and correlation of the species' habitat preference with the Vegetation Type Map of New Mexico (N.M. A. & M.A., 1957). Locations of documented sightings and collections are indicated by triangles on each species' map. The potential range of the species is represented by colored areas; red indicates summer occurrence, blue indicates winter or migration occurrence and green indicates year-long presence. The potential range includes areas where important elements of the species' habitat are present and where individuals of the species may be expected to occur.

[1]important habitat is defined as those areas which provide elements (food, cover, nest sites, etc.) necessary for the species' survival and perpetuation.

JAGUAR — Federal
Felis onca arizonensis — State-Group 1

Habitat: The jaguar is primarily a lowland tropical species, but records from New Mexico demonstrate that it occurs in mountainous areas as well. The jaguar is recorded in dense chaparral and timbered sections of low mountains. It seldom enters higher, cooler areas. Availability of prey seems to be more important in determining habitat than climate or terrain.

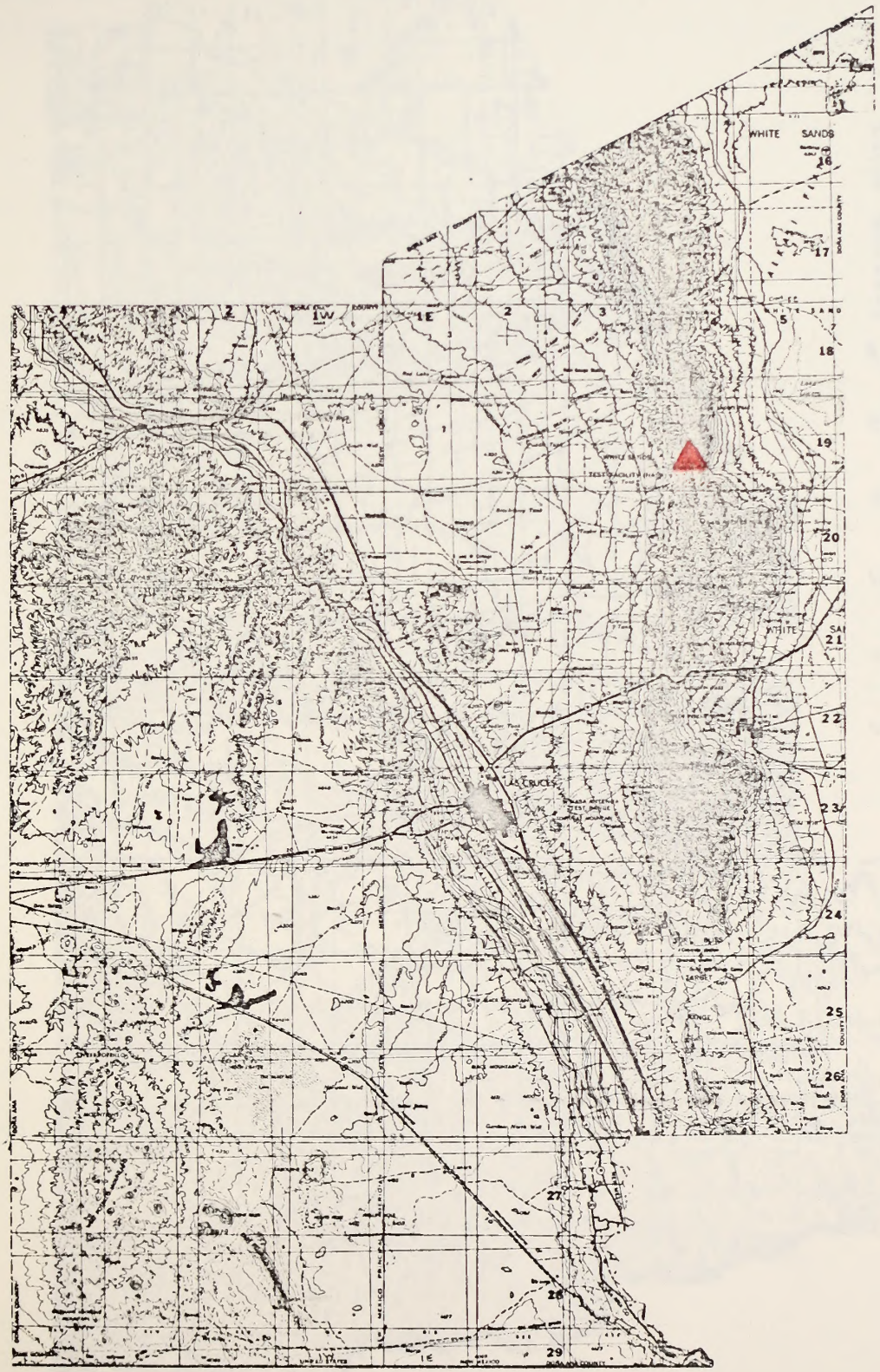
Distribution: The jaguar ranges from South America through Central America and Mexico into the southwestern United States. The subspecies *arizonensis* has historically occurred from southern California, Arizona and southwest New Mexico into Sonora. Burt and Grossenheider (1964) list the jaguar as rare in the southern United States. Historic records indicate most New Mexico jaguar sightings have been confined to the southwest part of the state. There have been no verified records from New Mexico since around the turn of the century but it is likely that occasional animals drift across the border from Mexico (New Mexico Game and Fish, unpubl. data and B. Hayward, pers. comm.).

Dona Ana County: San Andres Mountains - before 1903 (Bailey 1971)
no recent record

Sierra County: west slope of Sierra de los Caballos - 1904 or 1905 (Bailey 1971)
possible in Black Range (B. Hayward, pers. comm.)
no recent record

Status: The jaguar has declined throughout its range primarily because it has been hunted extensively for its valuable hide. Persecution by humans and habitat alteration may also be important limiting factors.

DONA ANA COUNTY JAGUAR



5 0 5 10 15 20 STATUTE miles

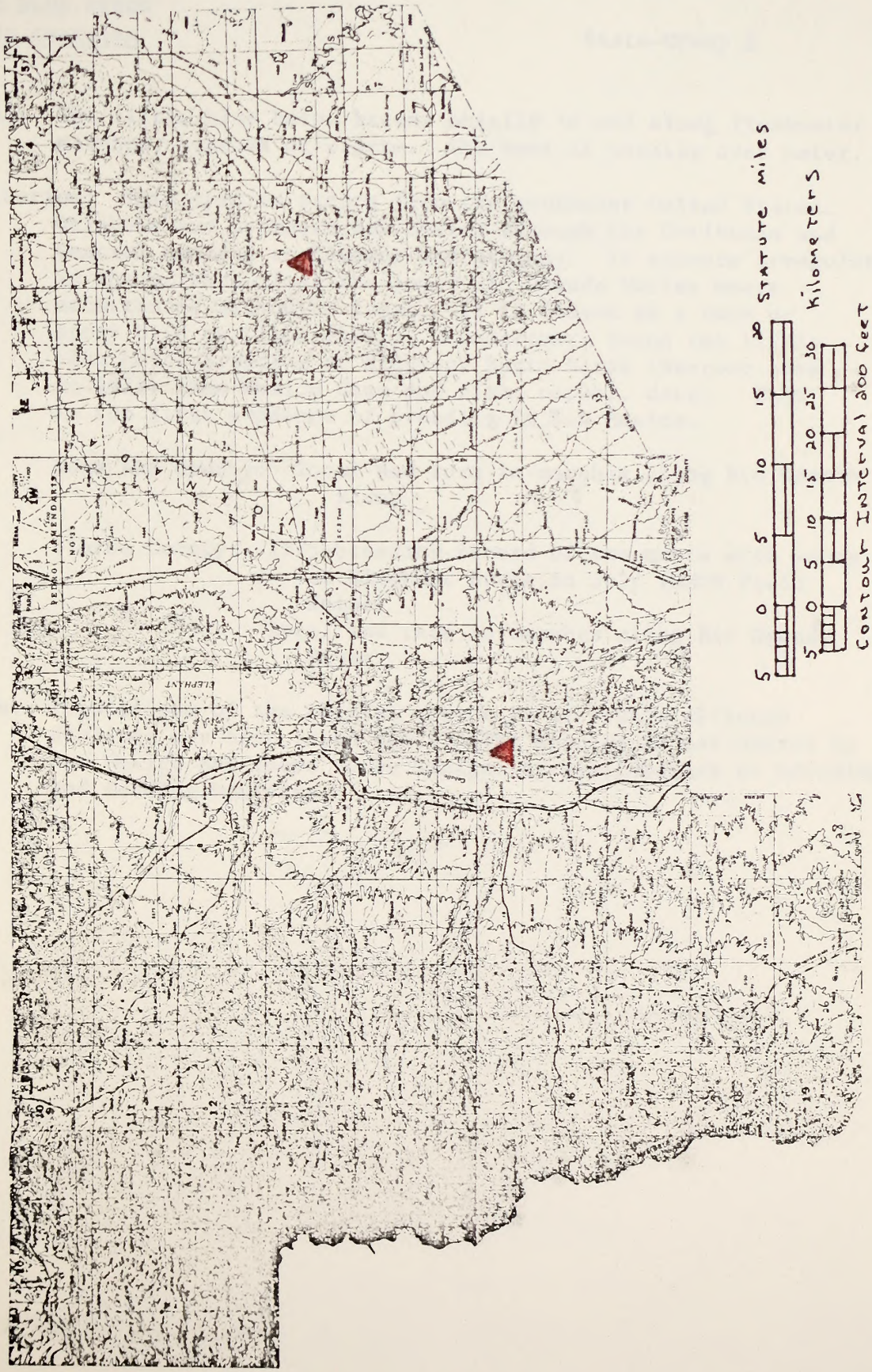
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 feet

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

JAGUAR



LITTLE BLUE HERON
Florida caerulea

State-Group 1

Habitat: The little blue heron breeds chiefly in and along freshwater marshes, streams or creeks. The nest is usually over water.

Distribution: This species occurs from the southeast United States, Oklahoma and southern New Mexico through the Caribbean and Central America to Ecuador and Uruguay. It summers irregularly in the marshes along the lower Rio Grande Valley where occurrances are quite local. It is listed as a rare or stray bird by Ligon (1961). Hundertmark found the little blue heron breeding at Elephant Butte Marsh (Narrows area in 1975) (New Mexico Game and Fish, unpubl. data). This is the first evidence of breeding in New Mexico.

Dona Ana County: local and rare in marshes along Rio Grande River

Sierra County: 1975-breeding record of two nests with young at Elephant Butte in July (NMOS Field Notes)
local and rare in marshes along Rio Grande River.

Status: Populations of the species appear to be stable although declines may have taken place. The species is peripheral in New Mexico and seems to be limited by availability of breeding and feeding habitats.

DONA ANA COUNTY

LITTLE BLUE HERON

5 0 5 10 15 20 STATUTE MILES

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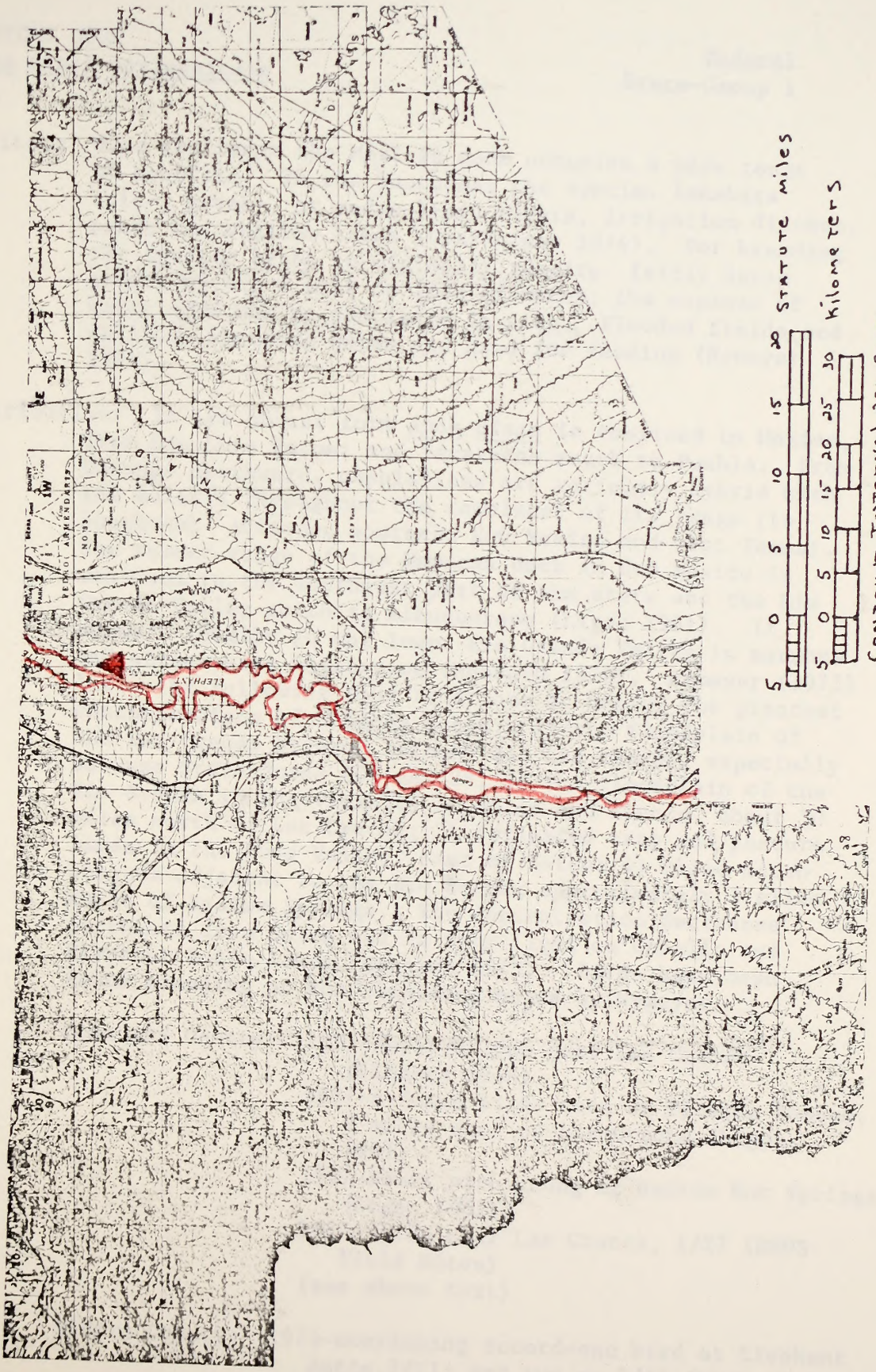
CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

LITTLE BLUE HERON



MEXICAN DUCK — Federal
Anas diazi novimexicana — State-Group 1

Habitat: Over its range the Mexican duck occupies a wide range of habitats. In the Southwest the species inhabits tule-, grass-, or sedge-lined rivers, irrigation ditches, ponds and shallow lakes (Oberholser 1974). For breeding the species seems to minimally require fairly dense growth within a mile or less of water; the expanse of water need not be too large in size. Flooded fields and shallow, standing water are used for feeding (Nymeyer 1975).

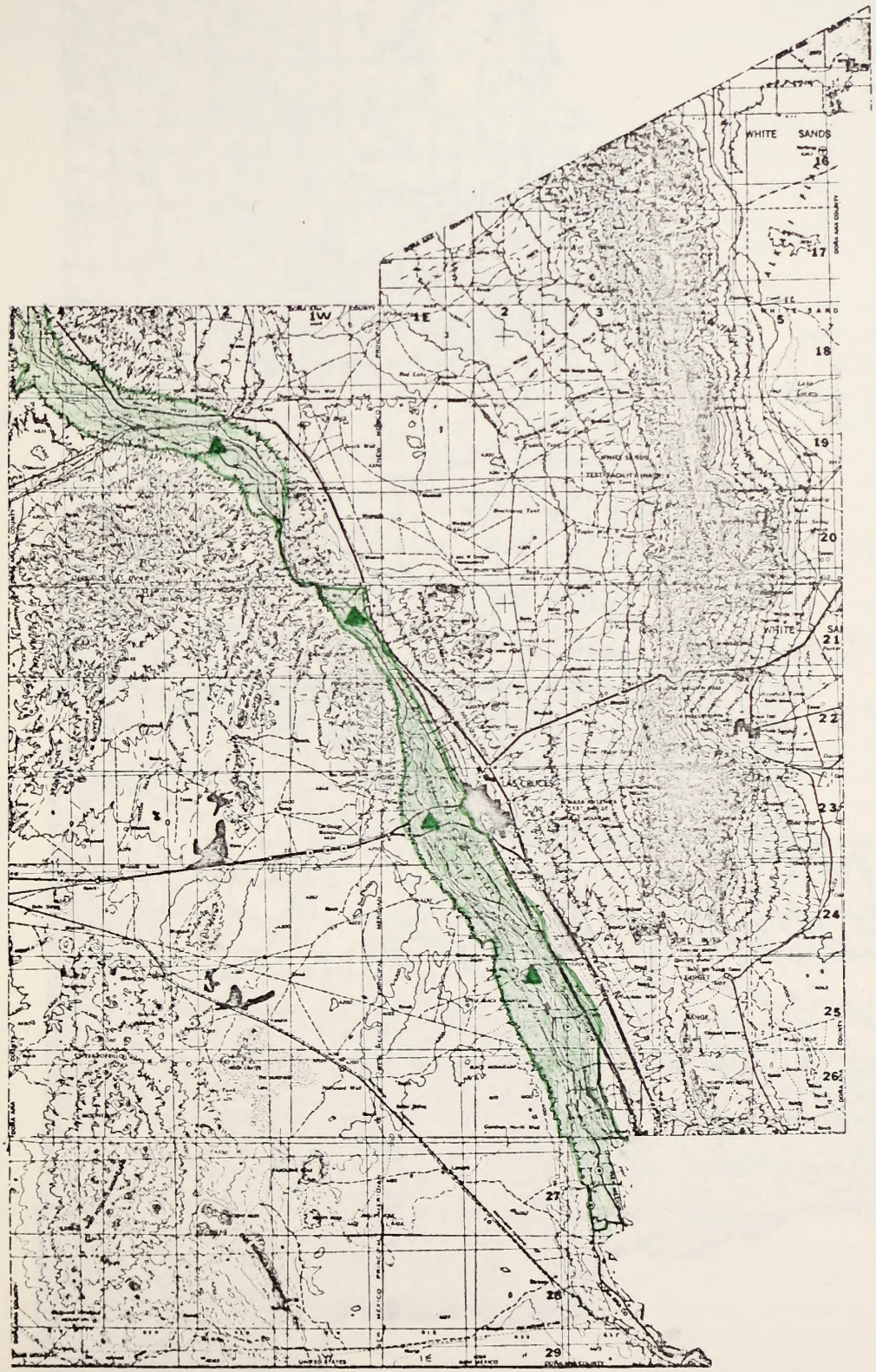
Distribution: In its purest form Anas diazi is confined to Mexico, from San Luis Potosi and Zacatecas south to Puebla. From Durango northward, populations are variously hybrid with the mallard throughout the remainder of its range (to southeast Arizona, southern New Mexico and west Texas). The summer range of the Mexican duck in New Mexico is confined to the southwest part of the state and the Rio Grande Valley north to Albuquerque (Ligon 1961). It summers locally in the lower Rio Grande Valley in marshes and stream-size vegetation (Hubbard 1970). Nymeyer (1975) lists the following four locations as having the greatest concentrations of Mexican ducks: 1) the floodplain of the Rio Grande between Anthony and Las Cruces, especially between State Roads 404 and 28; 2) the floodplain of the Rio Grande in the vicinity of Salem and Rincon, about 50 miles north of Las Cruces; 3) irrigated crop and pasture lands in the Uvas Valley, east of Hatch; 4) three marsh bosques adjacent to the Rio Grande approximately 3 miles north of Radium Springs. The concentration decreases northward from Salem and is very light on Caballo and Elephant Butte lakes (Nymeyer 1975). Birds have been found breeding at the locations noted by Nymeyer.

Dona Ana County: 1923-observations near Las Cruces (Lindsey 1946)
1937-a dozen birds seen at Picacho Bosque, 3 miles west of Las Cruces (Ligon 1961)
1947-adult with young at Radium Hot Springs (Ligon 1961)
1974-three near Las Cruces, 1/27 (NMOS Field Notes)
(see above text)

Sierra County: 1975-continuing record-one bird at Elephant Butte,7/11; and two on 7/18 (NMOS Field Notes)
(see above text)

Status: Present populations in New Mexico are estimated at 200-300 birds. In the past decade numbers have increased after declines in the previous years (Hubbard, ms.). The species' aridland river, lake and marsh habitat has been drying up since the last Ice Age 10,000 years ago. In the last century this natural phenomenon has been greatly emphasized by man's drainage of marshes and diversion of streams and rivers. Habitat loss and alteration have affected the species by causing a decline in overall numbers and encouraging invasion by mallards, which then hybridize with the Mexican duck and genetically alter the diazi stock (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY MEXICAN DUCK



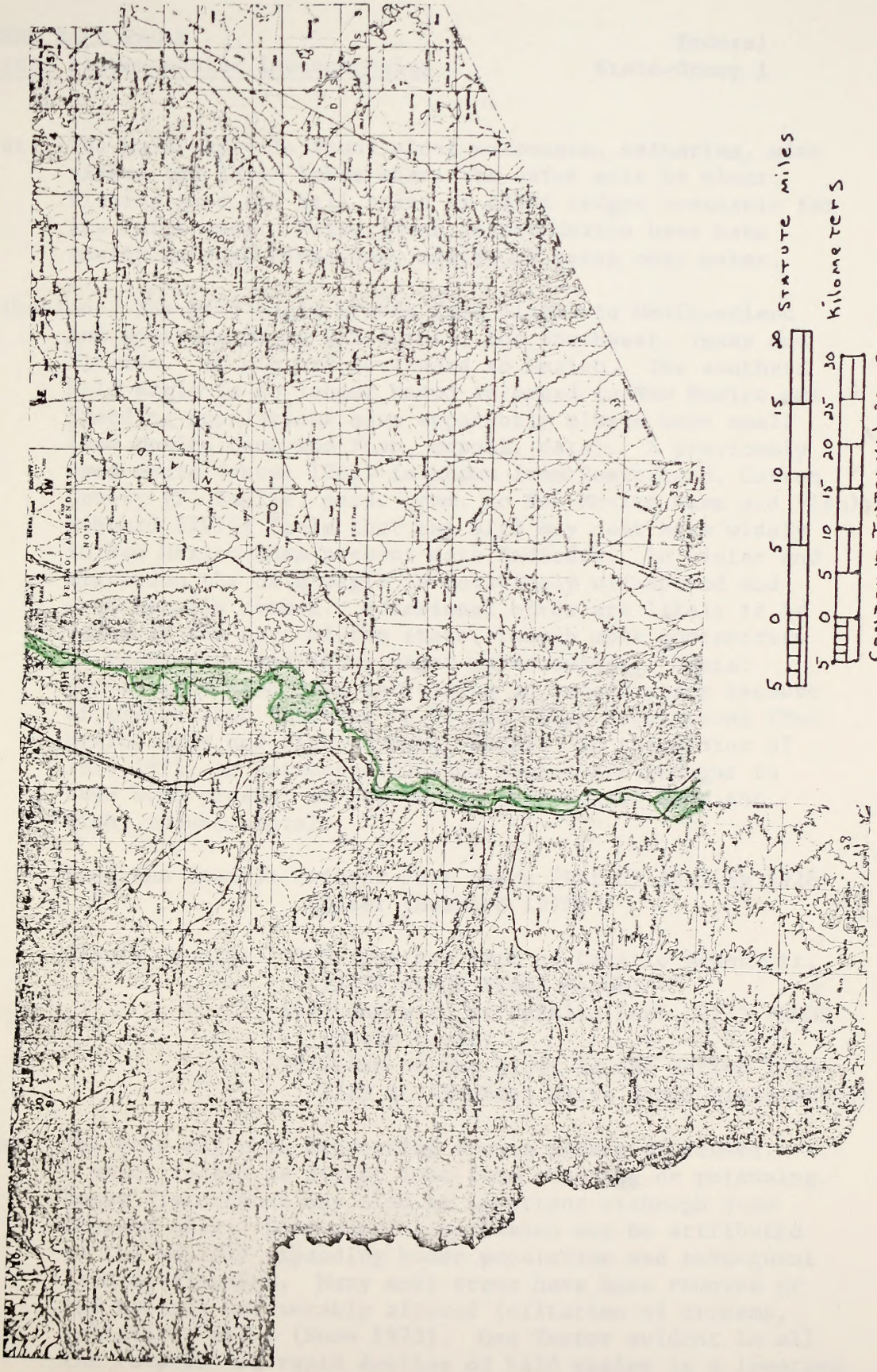
5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

MEXICAN DUCK



SOUTHERN BALD EAGLE — Federal
Haliaetus leucocephalus leucocephalus — State-Group 1

Habitat: The bald eagle is found along seacoasts, estuaries, wide rivers and large lakes where the water must be clear, fishing good and tall trees or cliff ledges available for its large nest. Nests found in New Mexico have been mostly on rock pinnacles, cliffs of trees near water.

Distribution: The bald eagle breeds from Alaska to Newfoundland and south to Baja, California, the Southwest, Texas and Florida. It winters southward to Mexico. The southern bald eagle is no longer known to breed in New Mexico but breeding populations have apparently always been small (New Mexico Game and Fish, unpubl. data). A previously used eyrie (about 1962) is known from Beaverhead, Catron County (T. Smylie, pers. comm. to New Mexico Game and Fish). Hubbard (1976) feels that the bird may nest more widely in New Mexico than present data indicate. In winter and migration the bald eagle is relatively widespread and even locally common. Occasional birds are likely to be found in any part of the state, though most concentrate at reservoirs and along major watercourses. Winter populations have been increasing in recent years because of the related increase in "rough" fish populations (New Mexico Game and Fish, unpubl. data). In the winter of 1974-1975, an estimated 200-300 eagles are thought to have been present in New Mexico (New Mexico Game and Fish, unpubl. data).

Dona Ana County: winter-Fort Thorn (Hatch) (Bailey 1928)
winter (Hubbard 1970)

Sierra County: 1965-immature bird at Caballo Reservoir, 12/30 (NMOS Field Notes)
1974-one bird at Caballo Lake, 2/15 (NMOS (Field Notes)
1976-one or two birds in the period 1/10-2/29 at Elephant Butte (NMOS Field Notes)

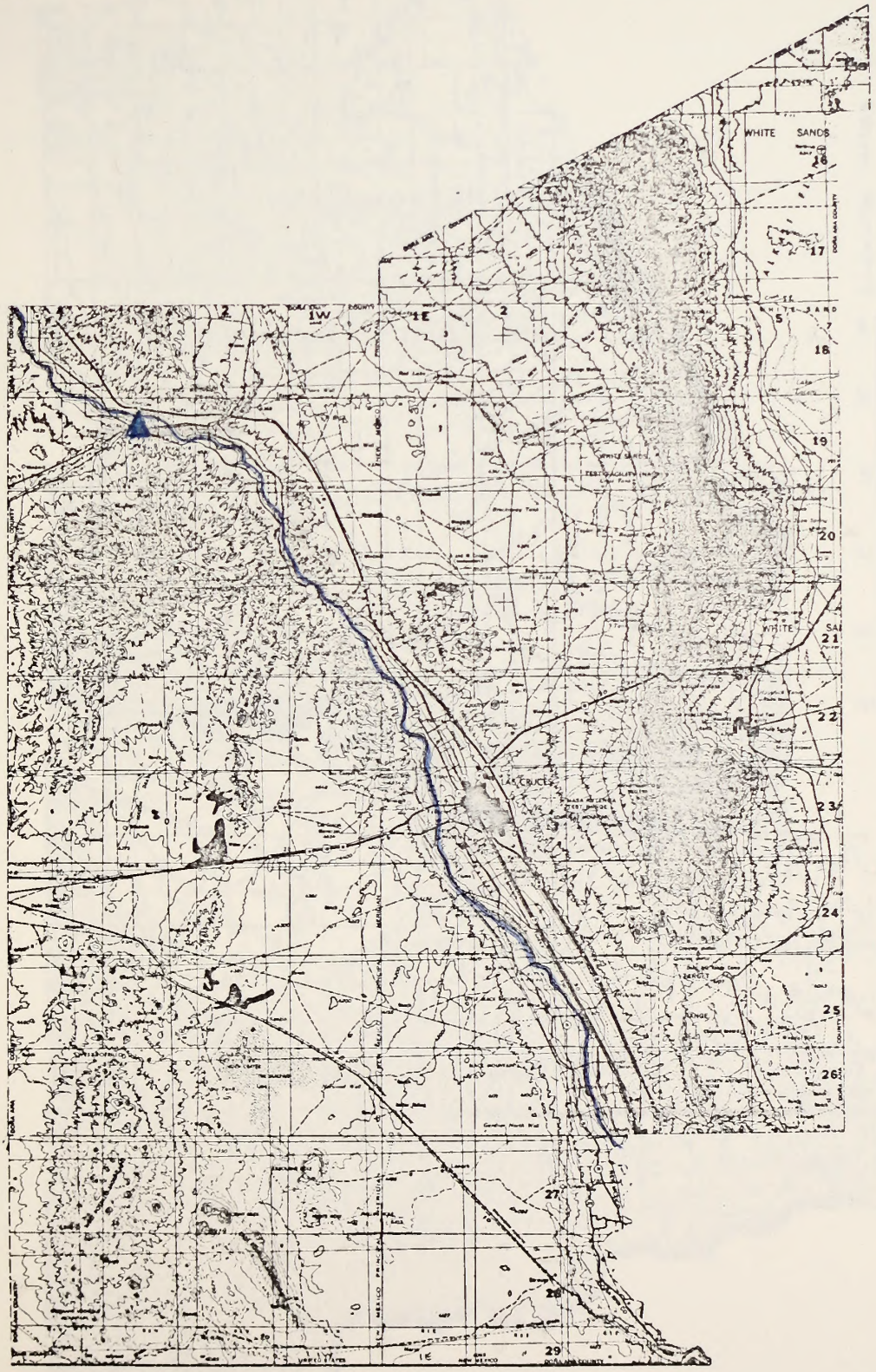
Status: The bald eagle is decreasing from a number of causes. A major factor is direct loss from shooting or poisoning. Human disturbance may also be important although some dispute this. Some population losses may be attributed to the rapidly expanding human population and subsequent land development. Many nest trees have been removed or the habitat unfavorably altered (siltation of streams, pollution, etc.) (Snow 1973). One factor evident in all the records of rapid decline of bald eagles is a lowering

of the reproductive success. This is primarily the result of ingestion of hydrocarbon pesticide residues in prey, causing thinning of eggshells and consequent reproductive failures. Residues, specifically DDT and its metabolites are highest where reproductive rates are lowest (Snow 1973).

The cause of the bald eagle's decline in New Mexico is unknown but it is unlikely that stream degradation has caused the food supply to decline. Persecution may also be a problem but such factors as pesticides do not seem to be critical.

DONA ANA COUNTY

BALD EAGLE



5 0 5 10 15 20 STATUTE miles

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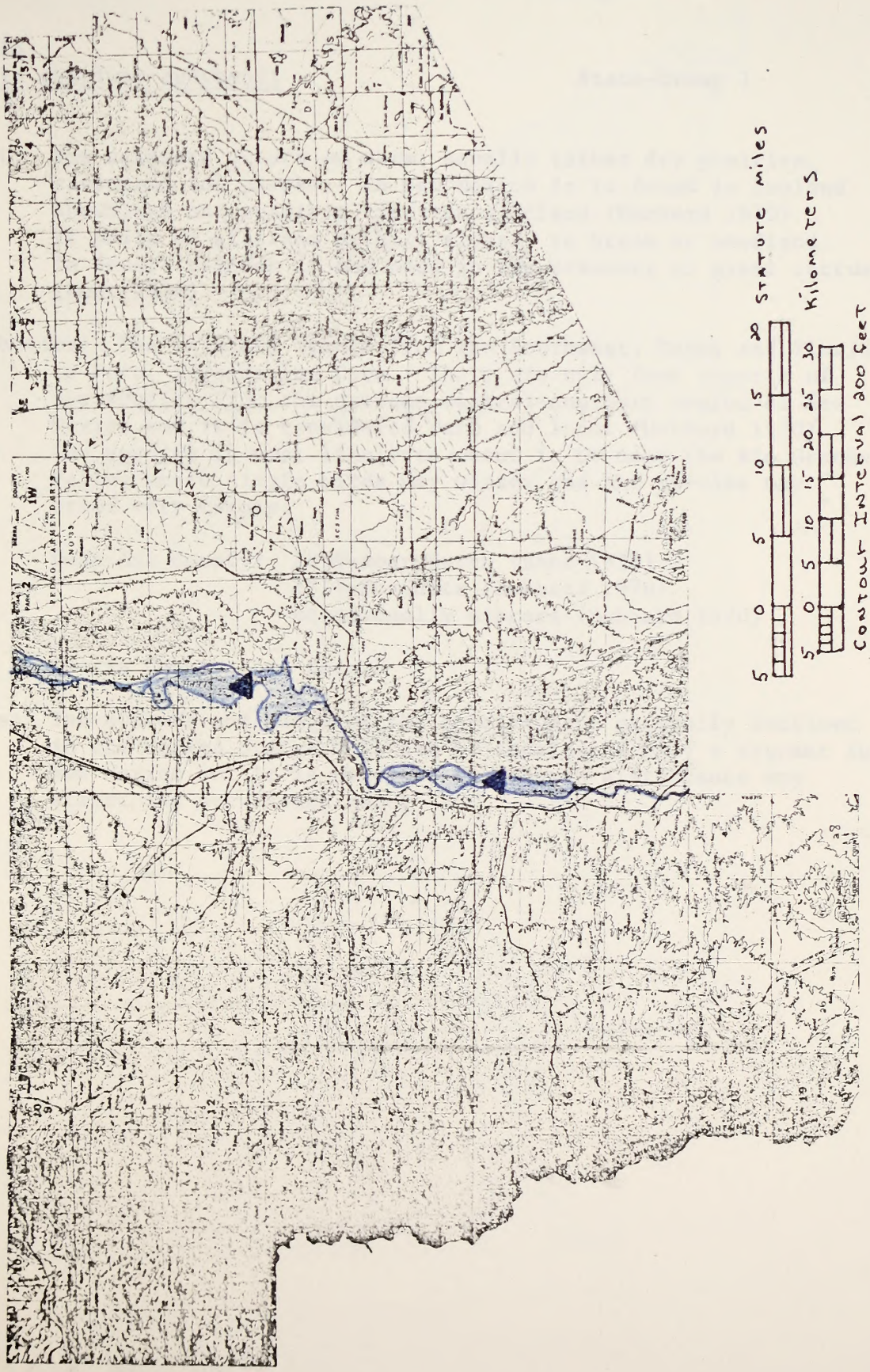
Contour Interval 200 feet

With Supplementary Contours at 100 foot Intervals

SIERRA COUNTY

BALD EAGLE



CARACARA
Caracara cheriway audubonii State-Group 1

Habitat: The caracara occurs on warm, usually rather dry prairies, savannahs and pampas. In New Mexico it is found in lowland shrubland and possibly riparian woodland (Hubbard 1970). It nests on prairies or hill slopes, in brush or woodland. In desert regions it may nest in the branches of giant cactus (Bent 1938).

Distribution: The caracara occurs from the Southwest, Texas and Florida to Peru, Guianas and Cuba. There are only four reports of the species from the extreme central-southern region of New Mexico and it is considered rare and local (Hubbard 1970). The species is most likely to occur in or near the Rio Grande Valley where single birds may winter and the species may breed very rarely.

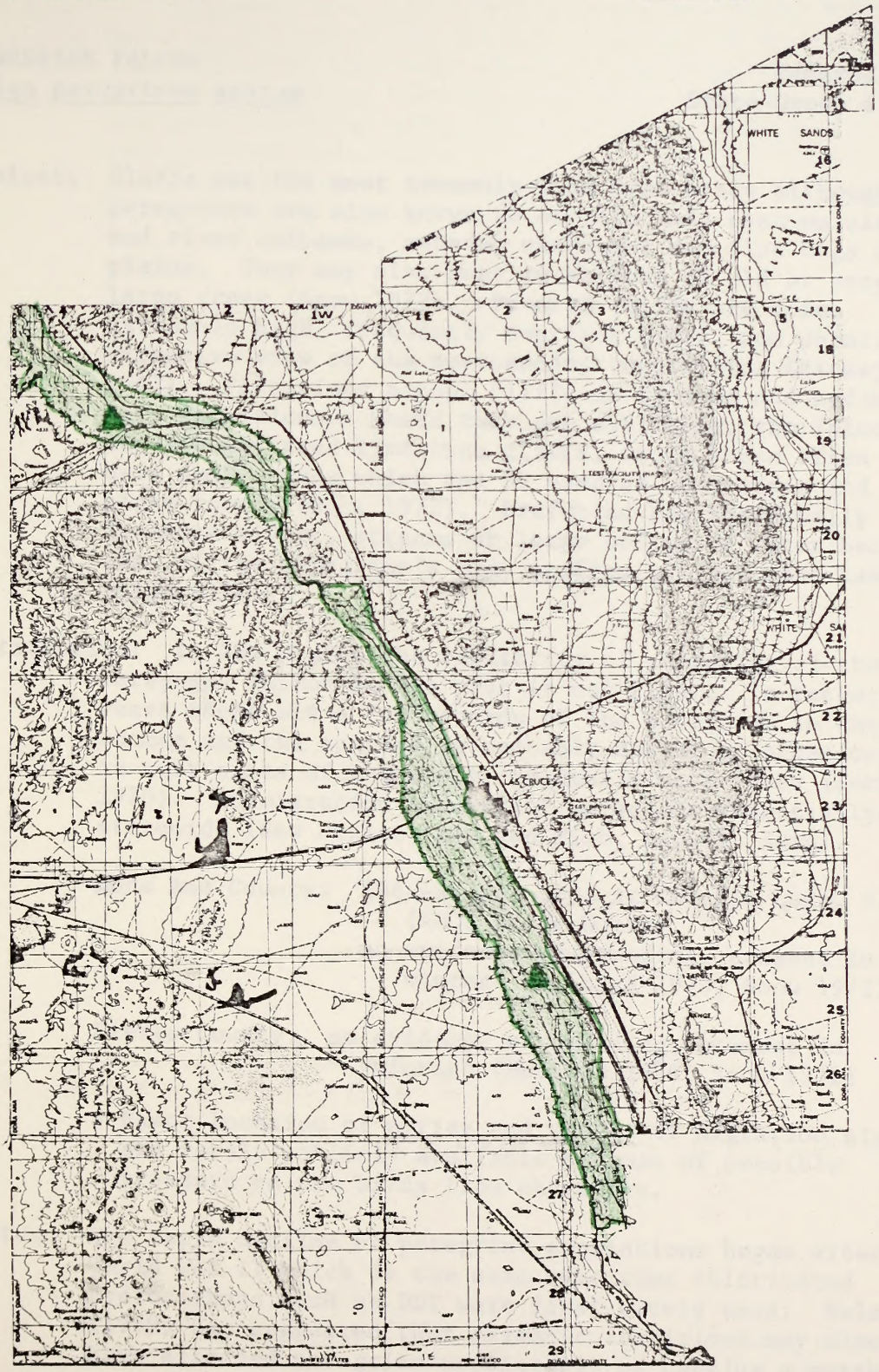
Dona Ana County: 1856-near Hatch (Bent 1938)
1914-Mesquite (Hubbard 1970)
occasionally winters (Hubbard 1970)

Sierra County: no record

Status: The numbers and range of the species have generally declined in the United States. It can be considered only a vagrant in New Mexico but it is possible that human disturbance may affect its occurrence here.

DONA ANA COUNTY

CARACARA



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CONTOUR INTERVAL 200 feet

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

PEREGRINE FALCON — Federal
Falco peregrinus anatum — State-Group 1

Habitat: Cliffs are the most commonly used nest sites although peregrines are also known to occasionally nest on slopes and river cutbanks, mounds, sanddunes and flat bogs and plains. They may also nest in hollows of old or very large trees (Snow 1972). Favored cliffs are often extremely high, frequently overlook water, and permit an extensive view of the surrounding countryside (Hickey 1942). Peregrines accept cliffs in igneous and sedimentary formations. Where they are available, the falcons readily utilized limestone cliffs, since these often have small caves which can be used as nest sites and night roosts (Snot 1972). Preferred habitat usually includes rivers, streams or large bodies of water because many of the peregrine's prey species utilize such habitats (Ligon 1961).

Distribution: In New Mexico the regularity of summering of the peregrine falcon in the past is not clear. In recent years there are a few records of the peregrine in the summer and the species is probably casual or occasional in most areas of the state, generally near water (Hubbard 1970). In migration and winter it occurs essentially statewide (New Mexico Game and Fish, unpubl. data).

Dona Ana County: 1964-single bird at Caballo Lake, 9/24 (NMOS Field Notes)
no evidence of breeding, present in winter* (Hubbard 1970, Snow 1972)

Sierra County: no evidence of breeding, present in winter* (Hubbard 1970, Snow 1972)

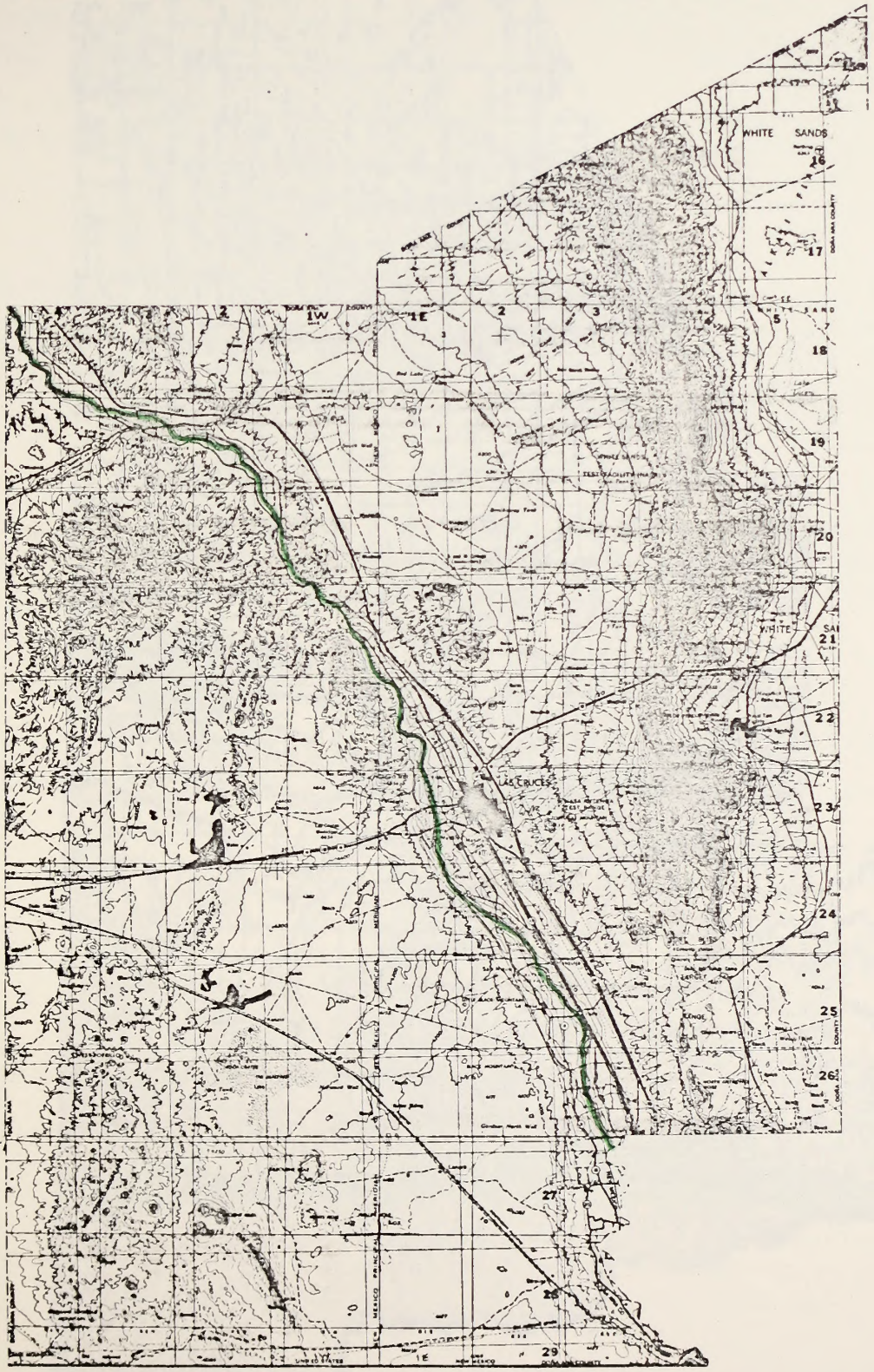
* Exact location of eyries and winter or migration sightings are rarely publicly available because of possible pressure on the birds from observers.

Status: The rapid decline of peregrine populations began after World War II which is the same time that chlorinated hydrocarbons such as DDT were first widely used. Nelson (1969) has suggested that climatic conditions may also have affected peregrine populations by causing a northward shift in the falcon's distribution. This theory is conjectural. Increasing development of the West, resulting in alteration or loss of peregrine habitat is also exhibiting some effect on populations. Researchers disagree on the impact of direct human pressure (Snow 1972).

The declines associated with pesticides in other parts of the world may not be too severe in New Mexico since birds in the state appear to be largely resident and do not usually inhabit areas where such chemicals are used. Habitat destruction, shooting, collecting and falconry have probably had an effect on the state's populations.

DONA ANA COUNTY

PEREGRINE FALCON



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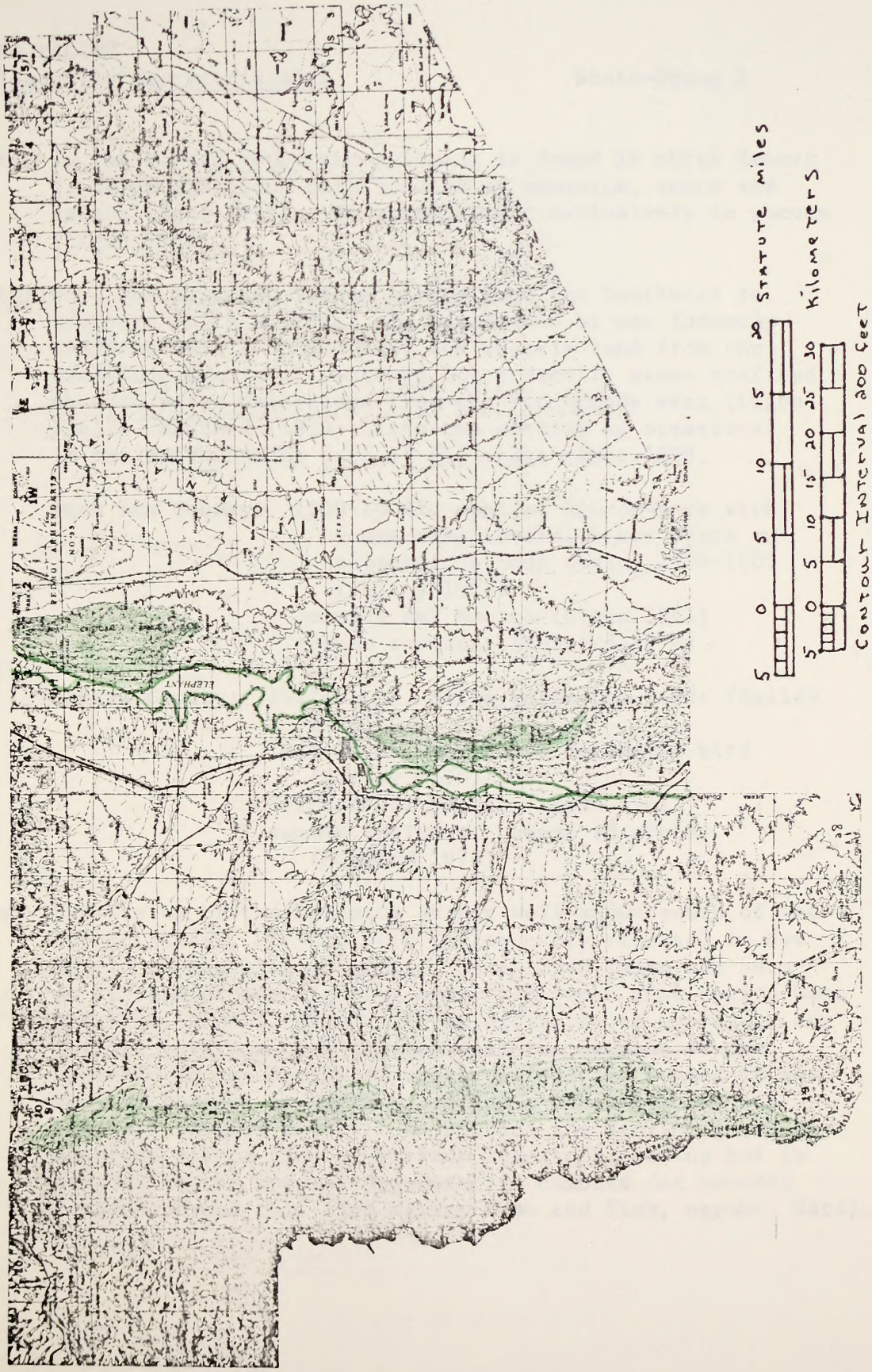
CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

PEREGRINE FALCON



APLOMADO FALCON
Falco femoralis septentrionalis State-Group 1

Habitat: In the United States the aplomado is found in shrub desert or shrub grassland with growths of mesquite, yucca and cactus (Bent 1938). It nests almost exclusively in yuccas (Ligon 1961).

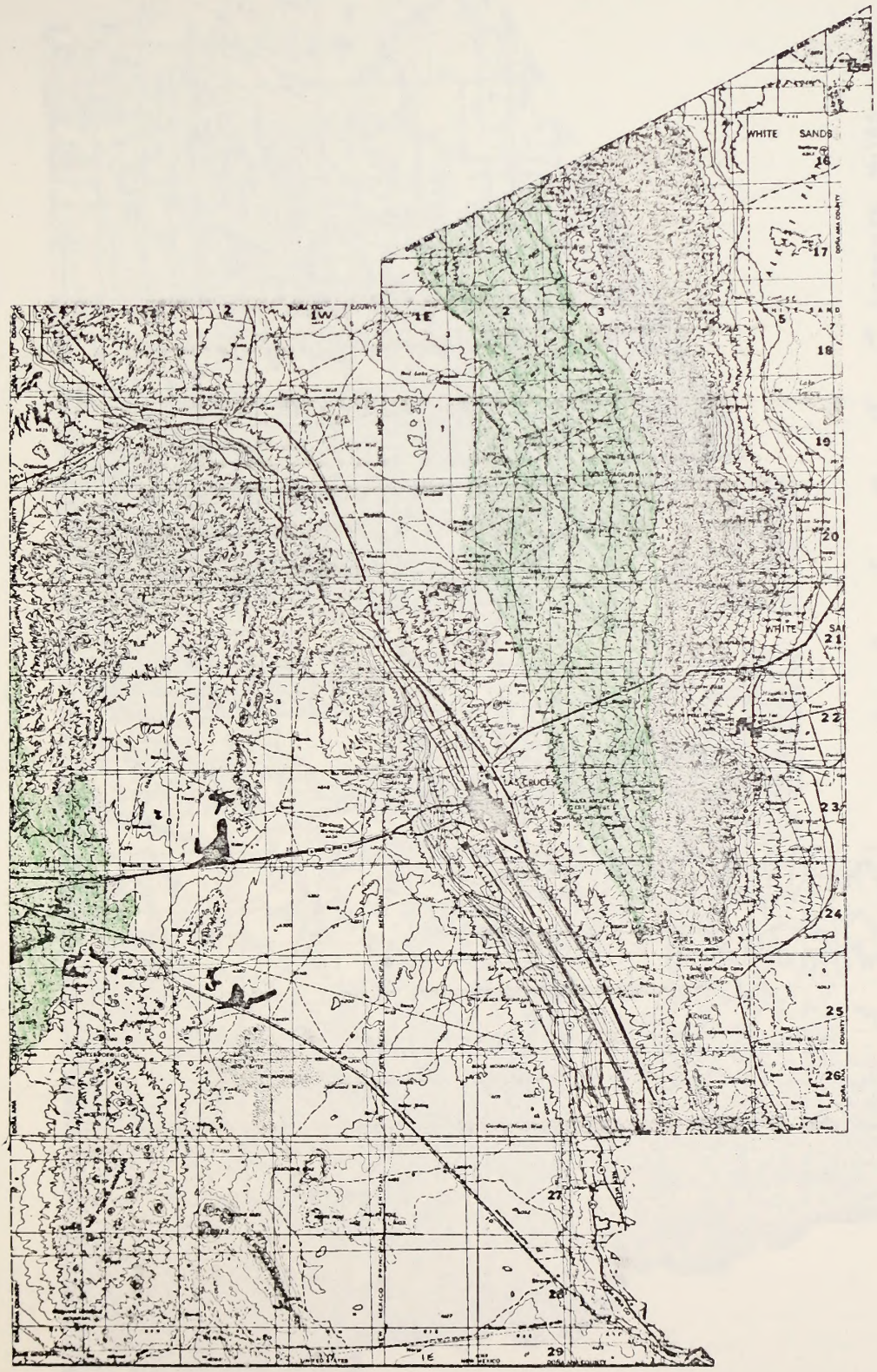
Distribution: The aplomado falcon occurs from the Southwest to southern South America. In New Mexico it was formerly resident of all open valley and prairie land from the Guadalupe Mountains westward but presently seems confined to open yucca desertland from the Rio Grande west (Ligon 1961). Hubbard (1970) lists the species as occasional in the southernmost part of the state since 1928.

Dona Ana County: 1909-10 mi. east of Rincon-nest with young-also several other nests on adjacent Jornada during 1908-1909 (Bailey 1928)
Jornada del Muerto (Ligon 1961)
summer resident (Hubbard 1970)

Sierra County: 1917-25 mi. north Engle-two birds (Bailey 1928)
1918-10 mi. northeast Engle-one bird (Bailey 1928)
Jornada del Muerto (Ligon 1961)
summer resident, casual in winter (Hubbard 1970)

Status: The status of the aplomado is not well known south of the United States. It has been infrequently reported in New Mexico in the last 25 years. Since 1960 there has been an average of one sighting every 2-3 years (New Mexico Game and Fish, unpubl. data). It is difficult to associate any obvious environmental changes with the decline of the aplomado in the Southwest since the species seemed to be very successful in yucca grassland-a habitat which has remained largely intact. In Arizona the decline seems to coincide with a time of maximum livestock grazing but in New Mexico the species persisted in numbers for several decades beyond that (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY APLOMADO FALCON



5 0 5 10 15 20 STATUTE miles

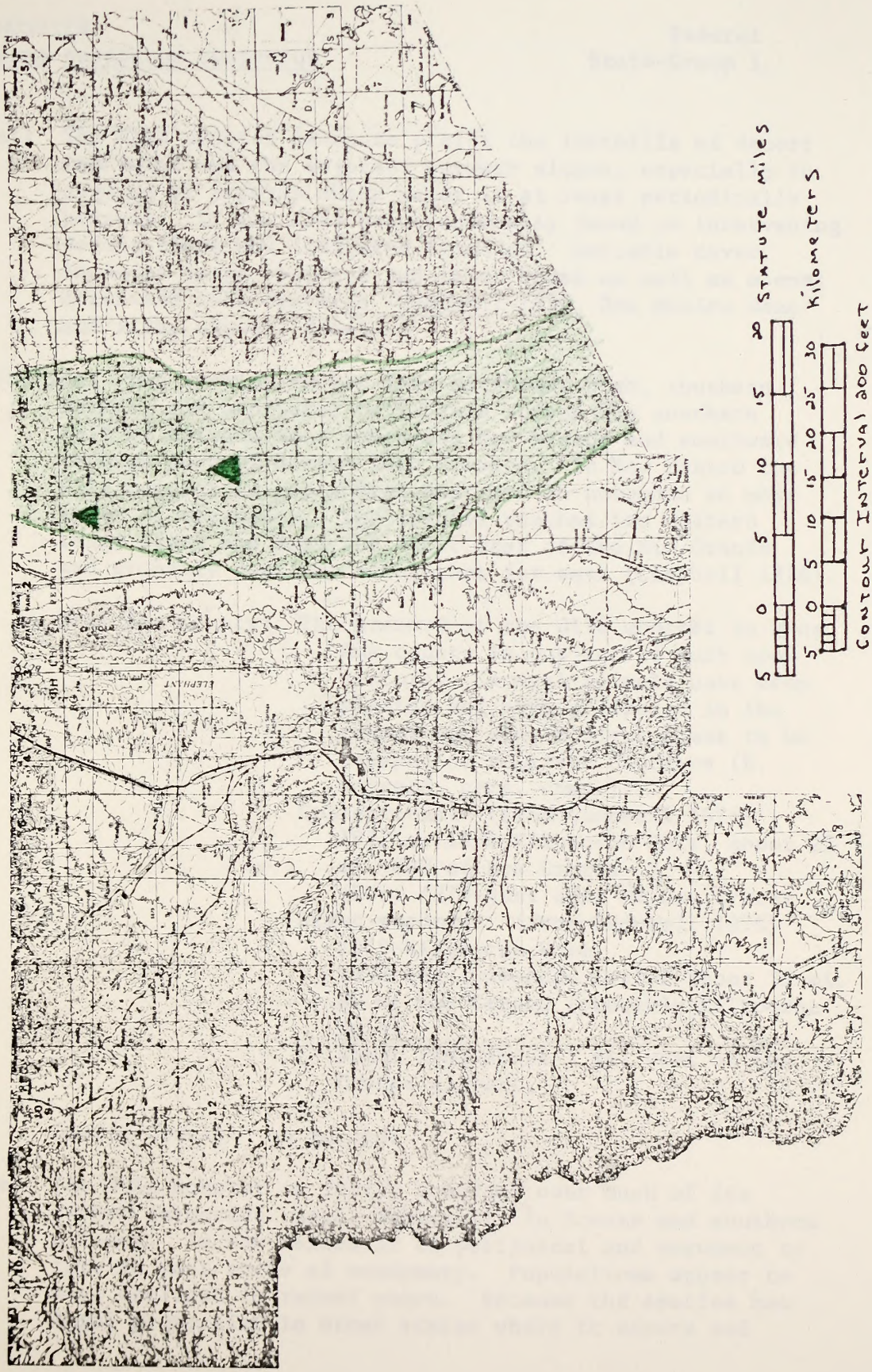
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

APLOMADO FALCON



GILA MONSTER — Federal
Heloderma suspectum suspectum — State-Group 1

Habitat: The Gila monster seems to prefer the foothills of desert mountains and the adjacent outwash slopes, especially in canyons or arroyos where water is at least periodically present. It may also be occasionally found on intervening desert flats and irrigated farmland. Suitable cover includes large boulders and thick brush as well as mammal holes and rock crevices (Campbell 1976, New Mexico Game and Fish, unpubl. data).

Distribution: The species ranges from southwest Utah, southern Nevada, and southeast California across the southern half of Arizona into southwest New Mexico and southward through most of Sonora into Sinaloa. In New Mexico the Gila monster is peripheral and rare to uncommon in most areas of occupancy. The species reaches its eastern range limit and does not occur east of the Rio Grande and probably does not occur that far east (Campbell 1976).

Dona Ana County: The presence of the Gila monster in Dona Ana county is subject to much conjecture. Several animals have been sighted and even collected in the county but many believe these to be escaped or released captives (B. Hayward, pers. comm.).

Collections: (from Campbell 1976)
1937 or 1938-Kilbourne Hole, about 25 mi. SSW of Las Cruces
about 1970-just east of Las Cruces

Sight records: (from Campbell 1976)
1949-Kilbourne Hole
1938 and 1949-Aden Crater about 25 mi. SW of Las Cruces (probably Kilbourne Hole)
about 1965-about 2 mi. west of Las Cruces airport.

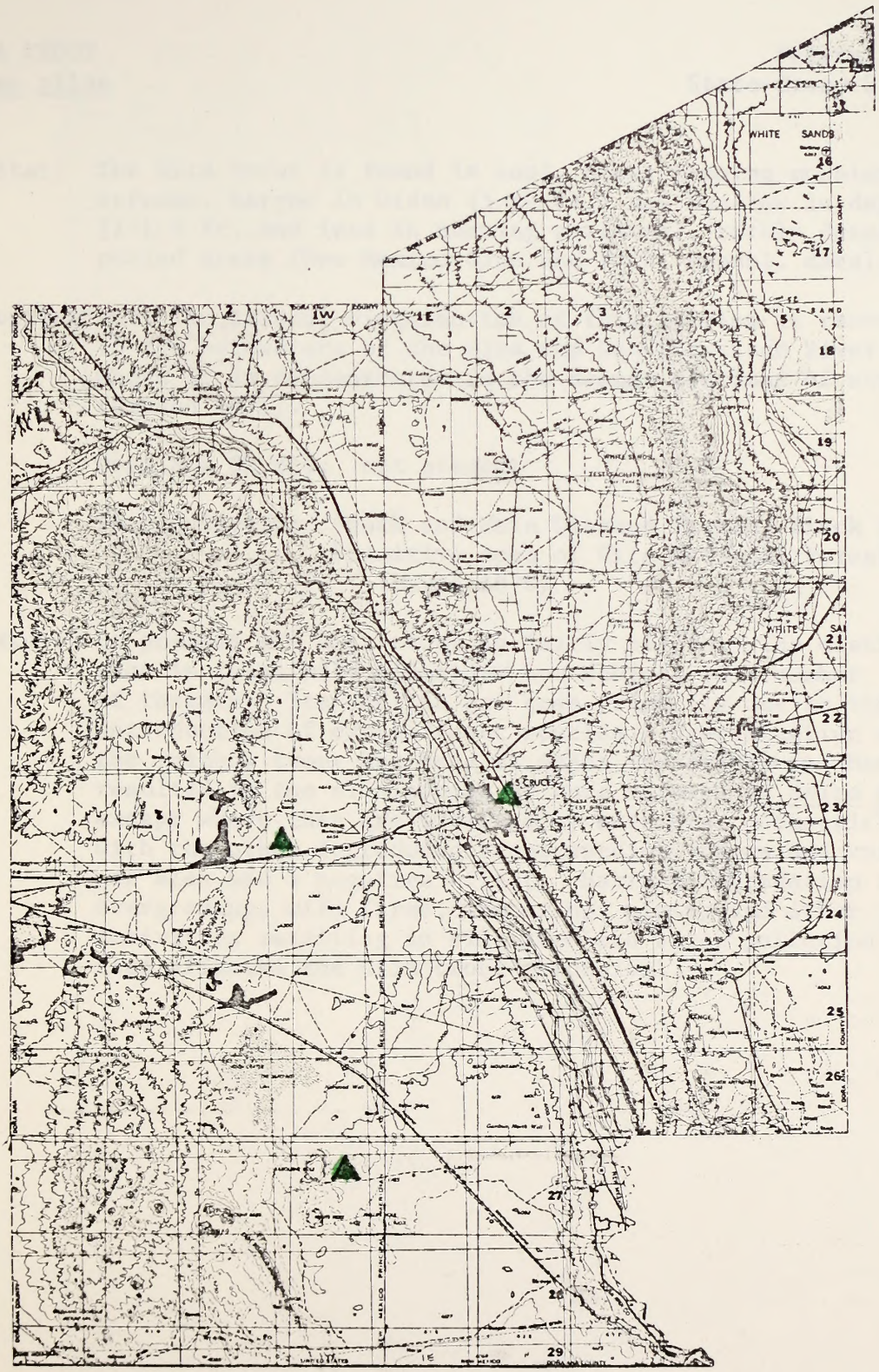
Sierra County: no record.

Status: The Gila monster is fairly abundant over much of its rather extensive range, especially in Sonora and southern Arizona. In New Mexico it is peripheral and uncommon to rare in most areas of occupancy. Populations appear to have declined in recent years. Because the species has legal protection in other states where it occurs and

Mexican export permits are difficult to obtain, the New Mexico population has been exploited by collectors. The animals bring good prices in the pet trade and are otherwise desirable specimens (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY

GILA MONSTER



5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 feet

WITH SUPPLEMENTARY CONTOURS AT 100 foot INTERVALS

GILA TROUT
Salmo gilae

Federal
State-Group 2

Habitat: The Gila trout is found in cool, clear running mountain streams, narrow in width (5-10 ft.) and shallow in depth (1-1.5 ft. and less in running portions), rarely deeper, pooled areas (New Mexico Game and Fish, unpubl. data).

Distribution: The present distribution of this species is restricted to the headwaters of the Gila and San Francisco River where it is concentrated in the deeper portions of streams (Hanson 1971).

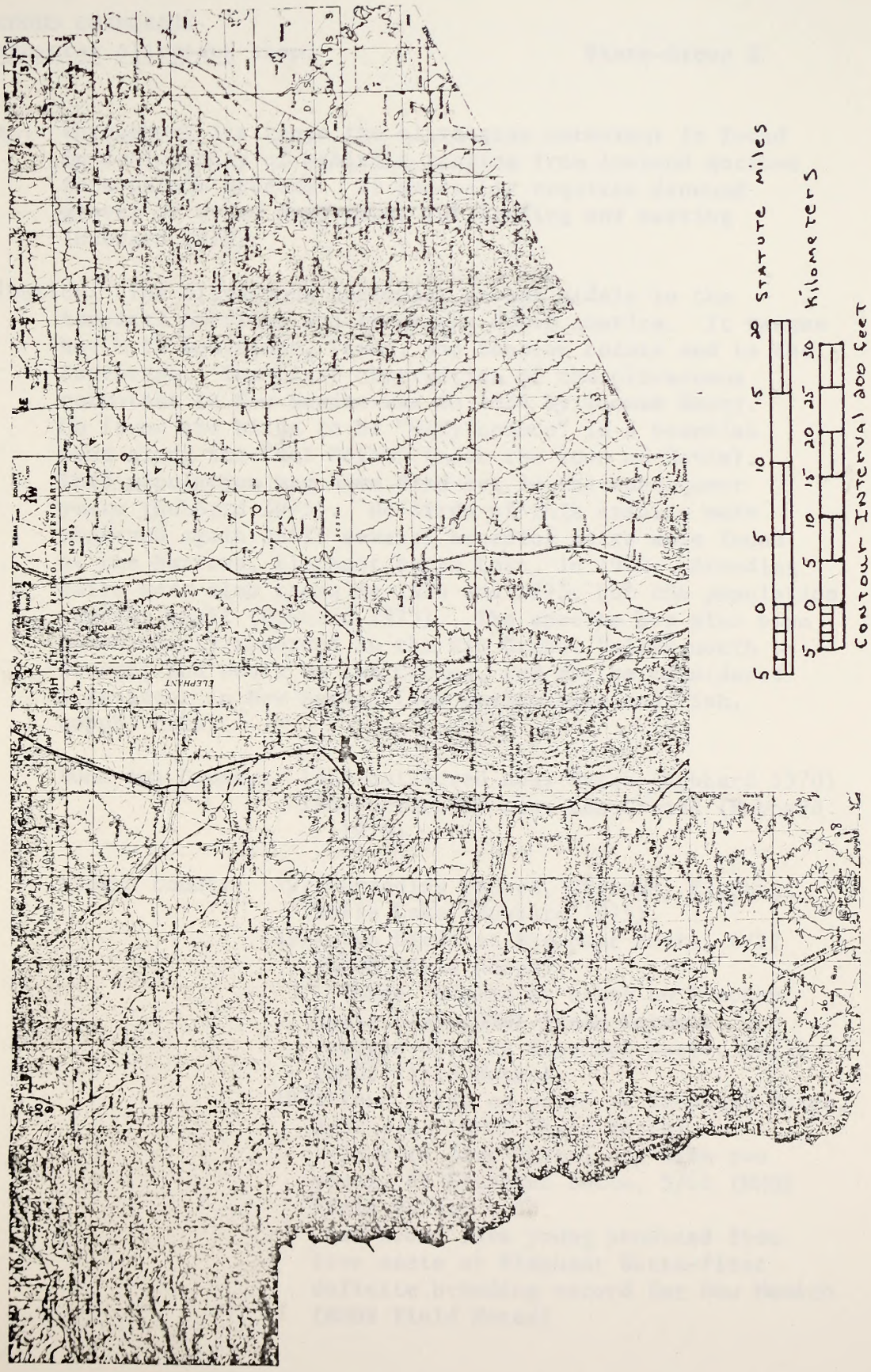
Dona Ana County: not present

Sierra County: South and Main Diamond Creeks, Black Range Primitive Area of Gila National Forest (David 1976)

Status: At present the Gila trout is fairly secure. The distribution is relatively widespread but subject to a number of threats. Its decline has been primarily due to the introduction of exotic trout species. Hybridization with the rainbow trout has been of major importance and has resulted in the elimination of pure strains of Salmo gilae except where they are isolated by barriers. Competition with the other introduced trout species (brown and cutthroat) has also had a negative effect. Habitat degradation from overgrazing, wild fires, lumbering, mining and other activities resulting in siltation and water pollution have also affected the Gila trout's survival.

SIERRA COUNTY

GILA TROUT



OLIVACEOUS CORMORANT
Phalacrocorax olivaceus sspp. State-Group 2

Habitat: Throughout its range the olivaceous cormorant is found in a diversity of habitats ranging from lowland marshes to mountain streams. It generally requires drowned groves or trees near water for feeding and nesting (Hubbard 1975).

Distribution: The olivaceous cormorant occurs widely in the tropical Americas and temperate South America. It ranges north to Louisiana, Texas, and Sonoran coasts and to the Southwest. The first observation of the olivaceous cormorant in New Mexico was in 1854 by Thomas Henry. He found the birds to be "very common" in a brackish pond along the "del Norte" (near the town of Hatch). This population may have died out in the subsequent years (Hubbard 1975). No birds of this species were observed again until several breeding pairs were found at the Narrows, Elephant Butte Lake, in 1972. Breeding pairs were also there in 1974 and 1975, but the population remains small (Hubbard 1975). The species has also been occasionally recorded in the Rio Grande Valley north to Socorro and south to Las Cruces, and may be considered a resident in New Mexico (New Mexico Game and Fish, unpubl data).

Dona Ana County: 1854-collected near Hatch (Hubbard 1970)
1967-collected near Las Cruces (Hubbard 1970)

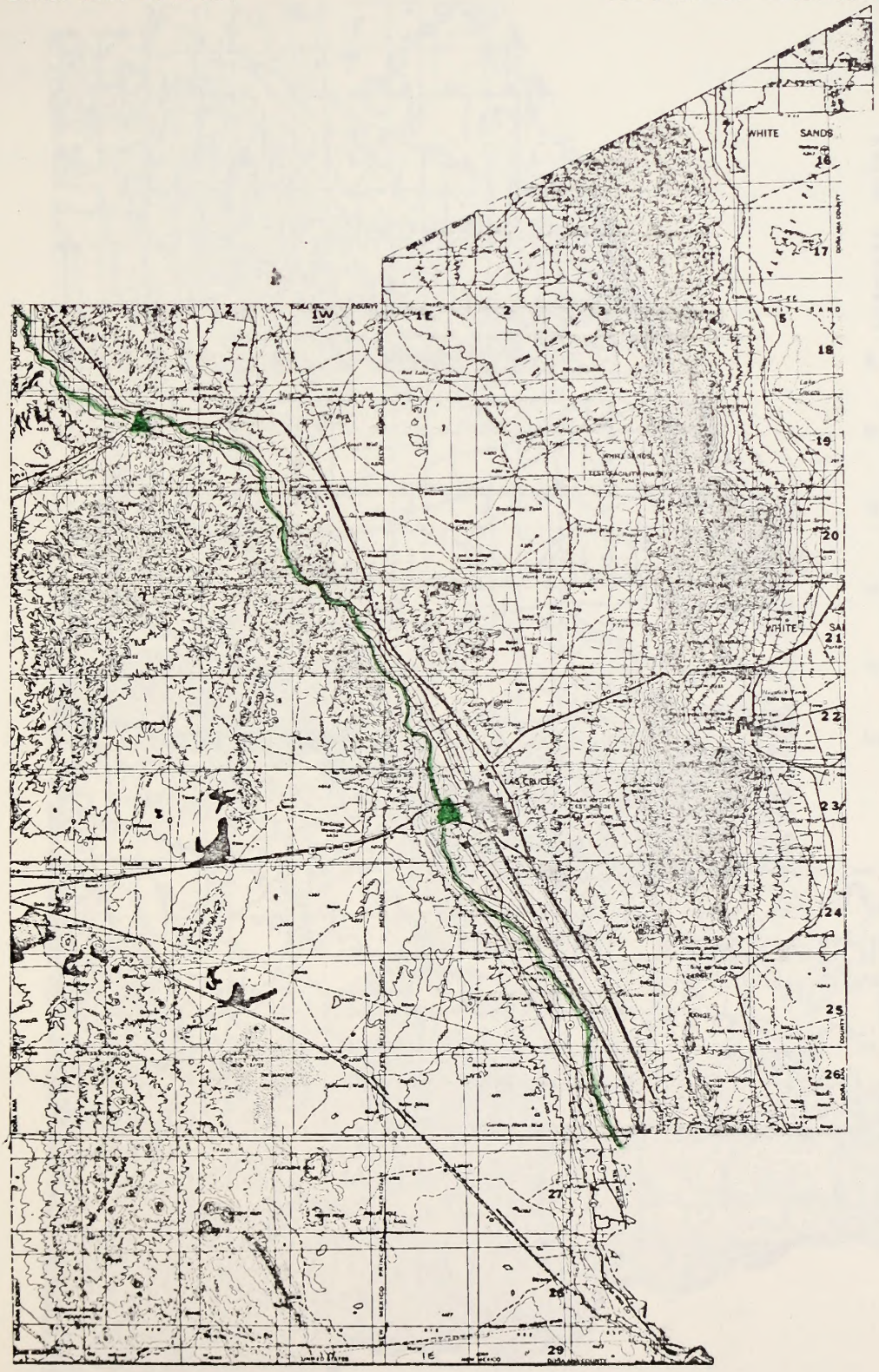
Sierra County: 1972-breeding record, Narrows, Elephant Butte Lake (Hubbard 1975).
1974-two birds at Elephant Butte, 4/27 (NMOS Field Notes)
-three adults at nests on Elephant Butte, 7/9 (NMOS Field Notes).
-single bird at Elephant Butte, 11/10 (NMOS Field Notes)
1975-four birds on nests at Elephant Butte, 3/22-3/23 (NMOS Field Notes)
-four to five nests, one with two young, at Elephant Butte, 5/11 (NMOS Field Notes)
-at least five young produced from five nests at Elephant Butte-first definite breeding record for New Mexico (NMOS Field Notes)

1976-continuing record-two birds at Elephant Butte, one at Caballo Lake, 3/12 (NMOS Field Notes)

Status: The species is apparently stable in New Mexico. It is potentially limited by availability of nest sites, persecution because of its fish-eating habits, fluctuation of food supply, and human disturbance.

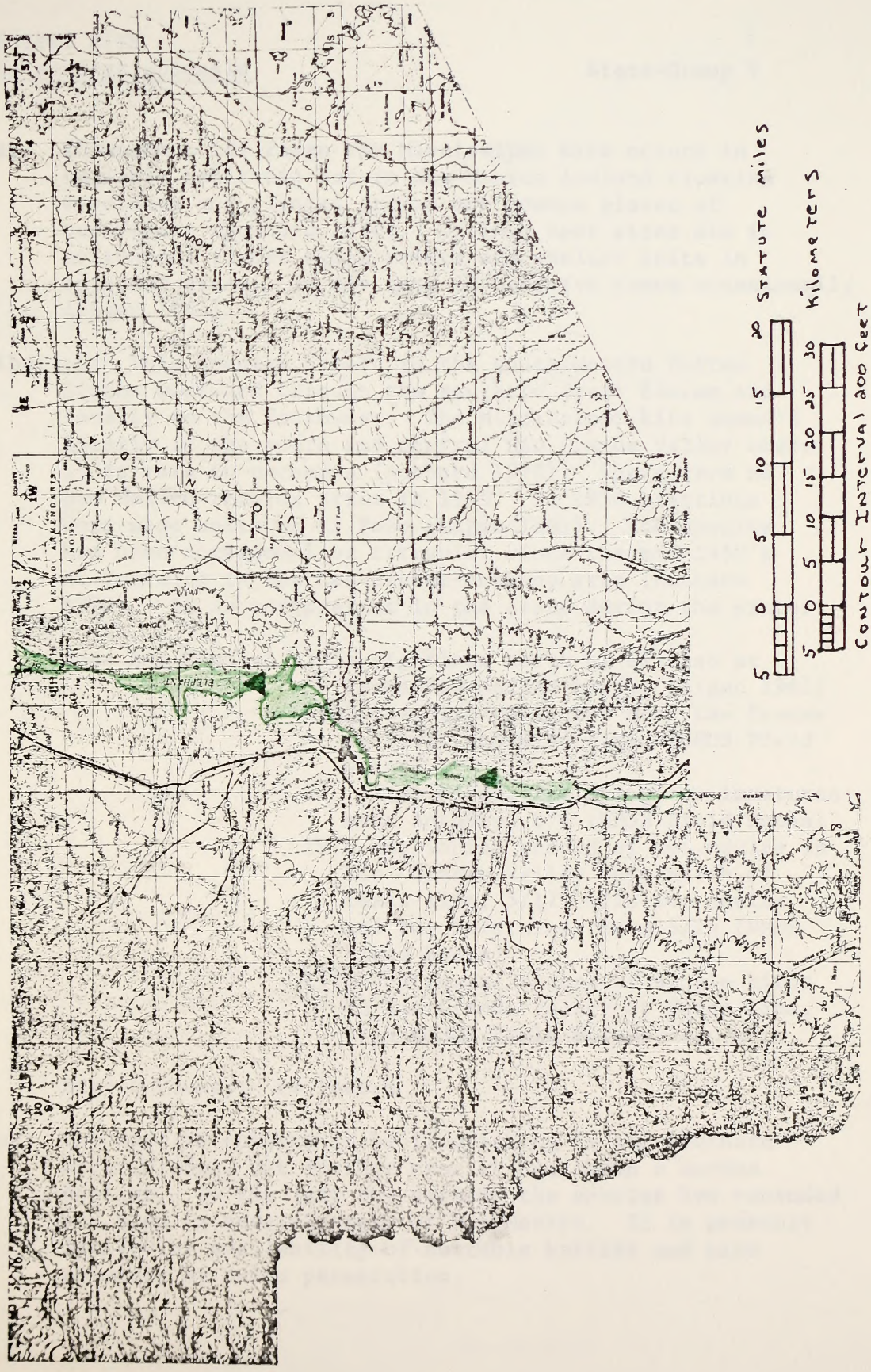
DONA ANA COUNTY

OLIVACEOUS CORMORANT



SIERRA COUNTY

OLIVACEOUS CORMORANT



MISSISSIPPI KITE
Ictinia mississippiensis State-Group 2

Habitat: Throughout its range the Mississippi kite occurs in variable habitats; but in New Mexico lowland riparian woodlands and planted groves are common places of occurrence (Hubbard 1970). Optimum nest sites are in cottonwood timber along rivers and shelter belts in adjacent areas. It may nest in mesquite trees occasionally (Ligon 1961).

Distribution: This species breeds in the southeastern United States westward through the southern Great Plains and locally to the Southwest. The Mississippi kite summers locally in the south and central Rio Grande Valley where it is rare to uncommon (Hubbard 1970). There were no New Mexico records prior to 1955. In 1956 sightings were made north of El Paso (Ligon 1961). The species has been occasional or irregular since the mid-1950's at Corrales in the Las Cruces-Anthony area (Hubbard 1970). It is not present in the state during the winter.

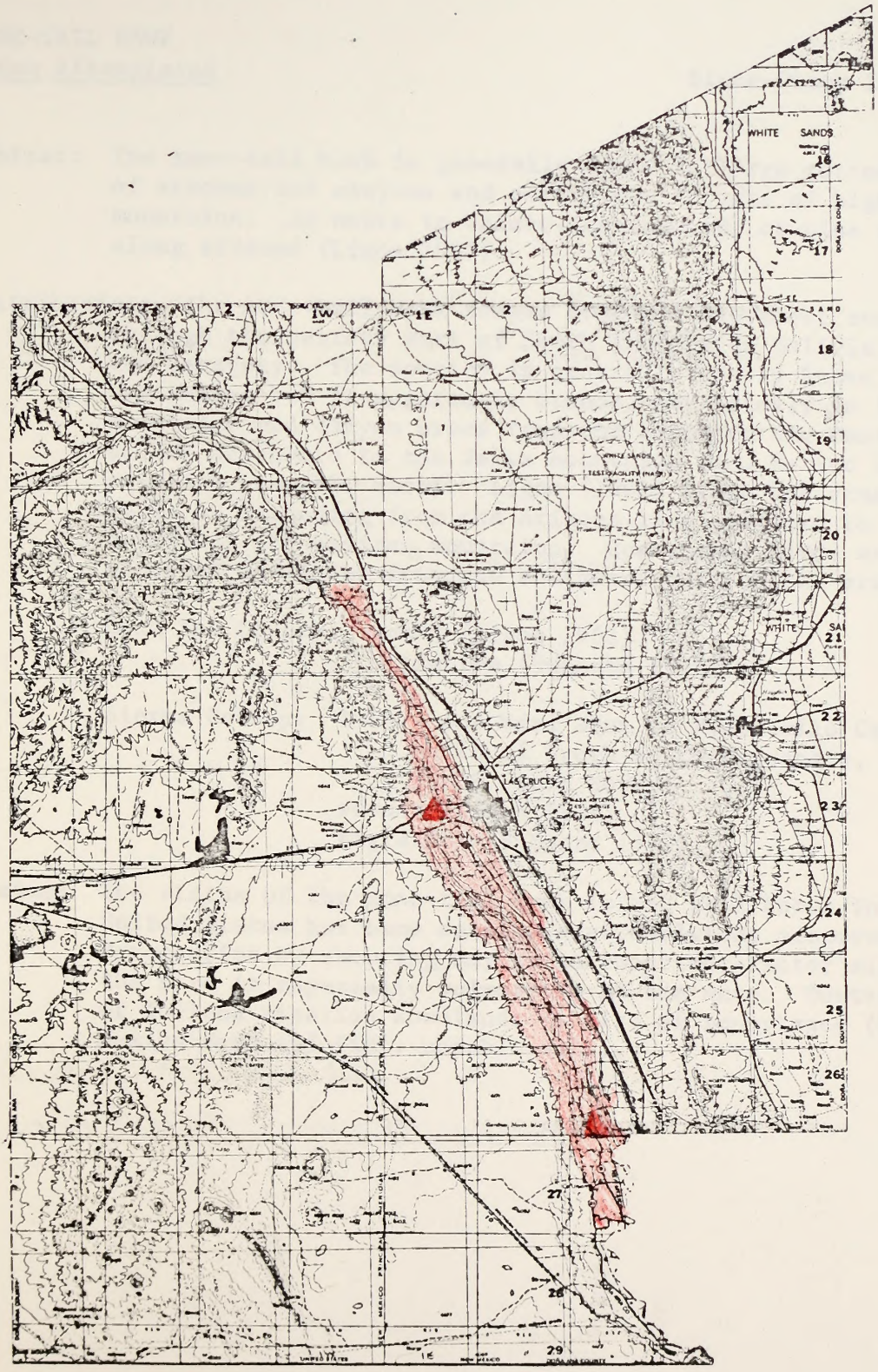
Dona Ana County: 1956-sightings north of El Paso at Texas-New Mexico border (Ligon 1961)
1962-one bird collected near Las Cruces as first state specimen (NMOS Field Notes)
-five birds, including two immatures near Anthony, 8/4 (NMOS Field Notes)
1975-continuing record of two adults in Rio Grande Valley just north of Texas line, 5/17; with two adults and two immatures there 5/29 (NMOS Field Notes)
1976-continuing record of single birds in Rio Grande Valley at Texas Line, 5/19 (NMOS Field Notes)

Sierra County: no record

Status: The species appears to be flourishing in the southern Great Plains, but further east it has shown a marked decline. In the last two decades the species has expanded and bred in several areas of New Mexico. It is probably limited by availability of suitable habitat and also possibly by human persecution.

DONA ANA COUNTY

MISSISSIPPI KITE



5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

Contour Interval 200 feet

With Supplementary Contours at 100 foot Intervals

ZONE-TAIL HAWK
Buteo albonotatus State-Group 2

Habitat: The zone-tail hawk is generally found in large cottonwoods of streams and canyons and coniferous forests of high mountains. It nests in walnut, cottonwood, or pine trees along streams (Ligon 1961).

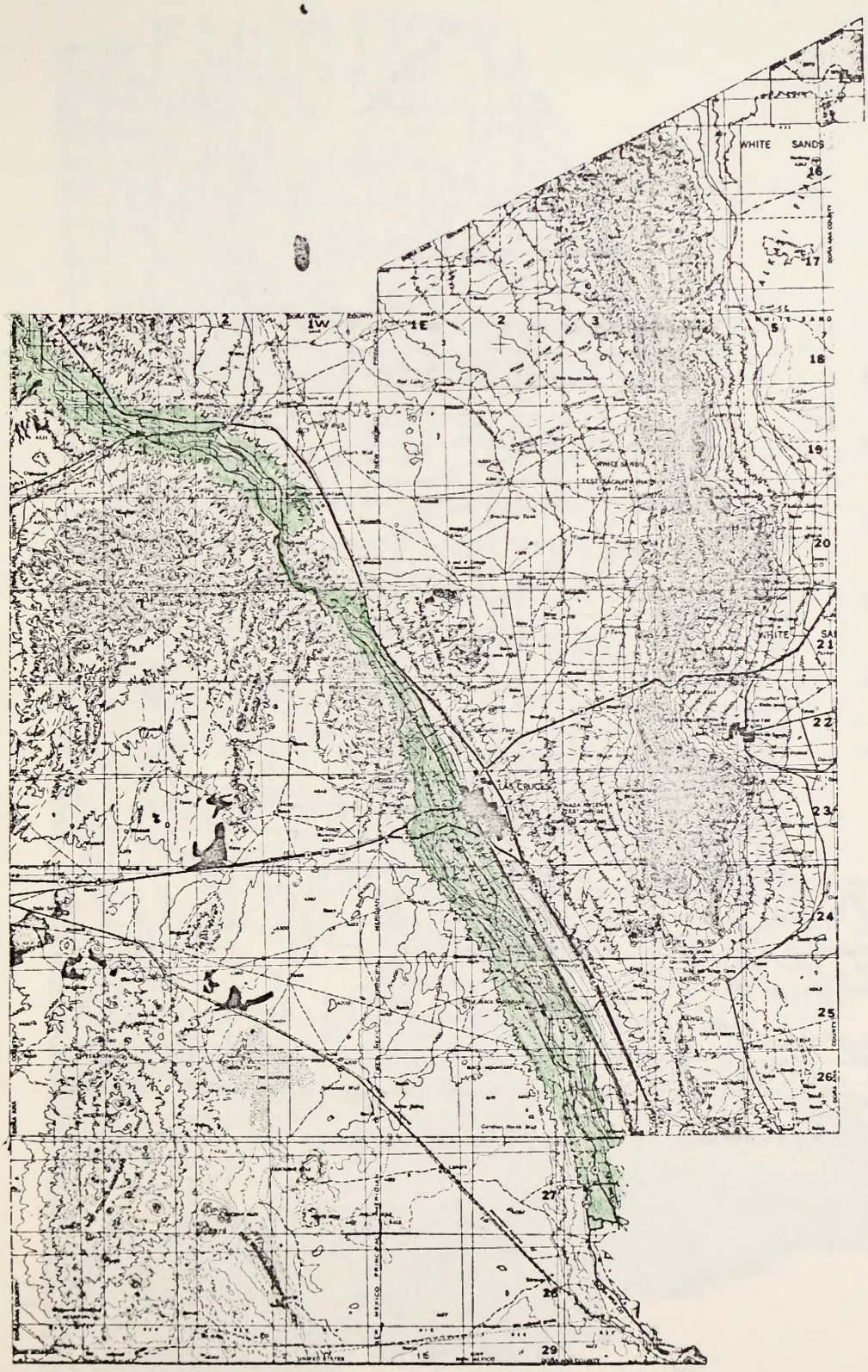
Distribtuion: The zone-tail hawk ranges from the Southwest south through the western part of South America to Bolivia and Paraguay. The species is generally poorly known in New Mexico but it apparently breeds very locally in low mountains and canyon areas from the southern New Mexico border northward to the Jemez mountains (New Mexico Game and Fish, unpubl. data). Ligon (1961) lists the summer range as extending from the Arizona line eastward to the Guadalupe and Capitan mountains. Occasional birds are reported in winter from the southwest part of the state.

Dona Ana County: summer (Ligon 1961)
migration (Hubbard 1970)

Sierra County: 1964 - one bird seen in Monticello Canyon, north of Truth or Consequences, 8/21 (NMOS Field Notes)
summer (Ligon 1961)
migration (Hubbard 1970)

Status: The status of the zone-tail hawk is not well known in the United States but some decline apparently has occurred. Persecution by shooting may be an important factor since the bird is especially vulnerable at the nest. Destruction of lowland riparian woodlands is also of importance (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY ZONE-TAIL HAWK



5 0 5 10 15 20 STATUTE miles

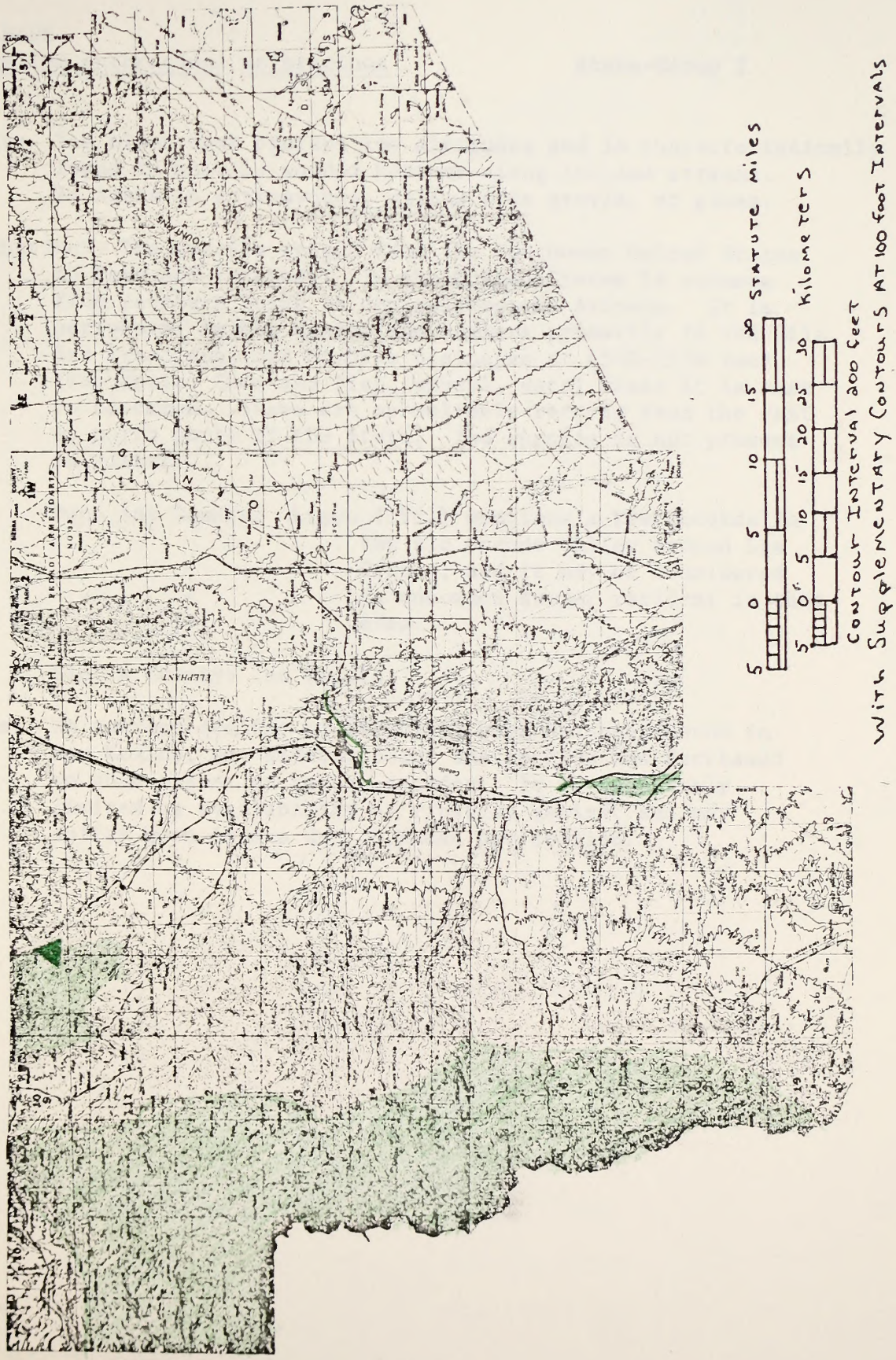
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

ZONE-TAIL HAWK



BLACK HAWK
Buteogallus anthracinus anthracinus State-Group 2

Habitat: The black hawk prefers low altitudes and is characteristically found in heavily wooded bottoms along lowland streams. It nests in cottonwoods, willow tree groves, or pines.

Distribution: The species ranges from the southwest United States to Peru and Paraguay. In the United States it summers from southern Texas to central-western Arizona. It is peripheral in New Mexico and summers primarily in the Gila, San Francisco, and Mimbres drainages at 4500-5500 feet (New Mexico Game and Fish, unpubl. data) where it is rare to uncommon. There are no reliable records from the east or north parts of the state. The species is not present in winter.

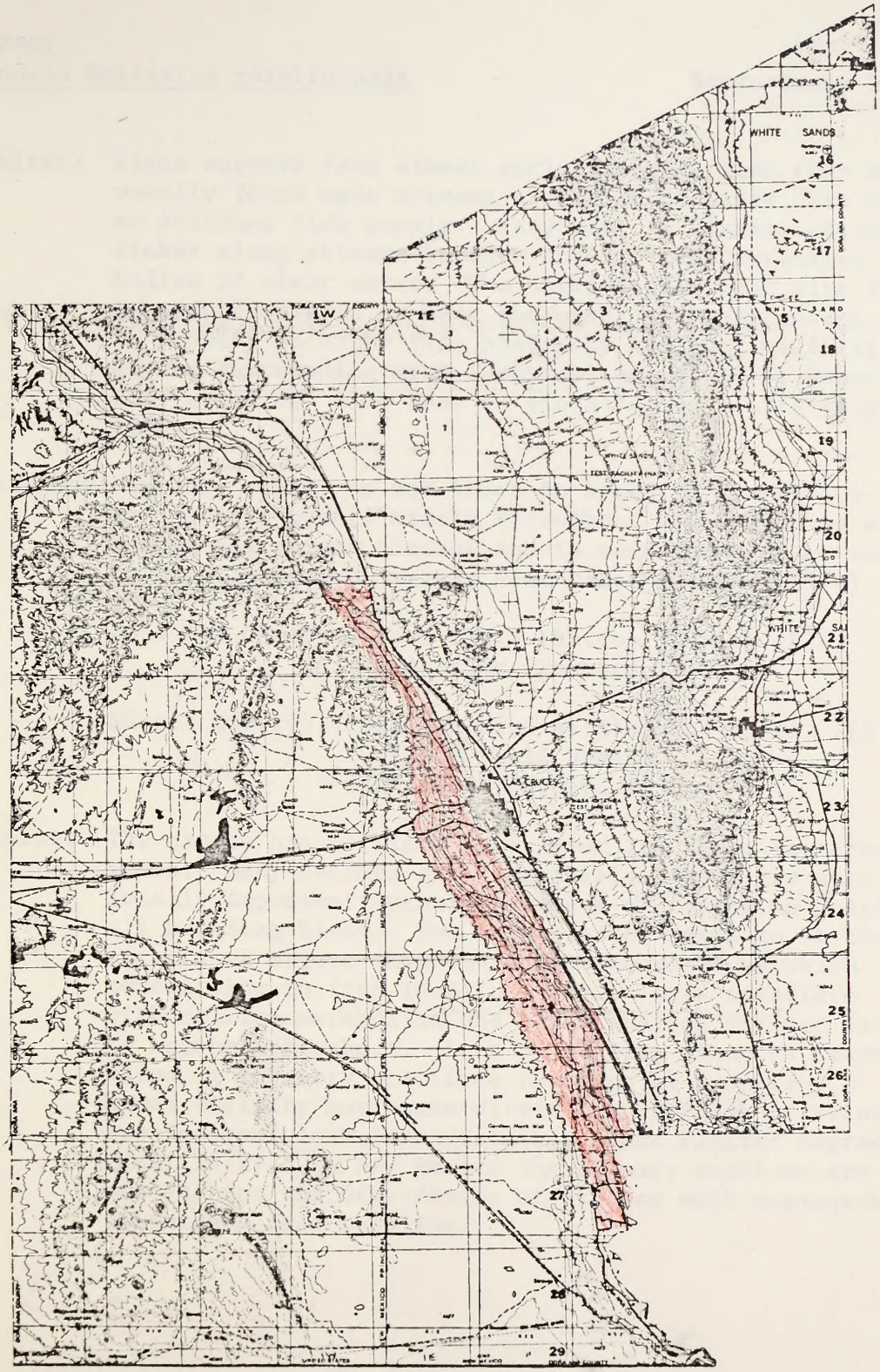
Dona Ana County: Ligon (1961) mentions a few records in the Rio Grande Valley around Las Cruces, and it may be considered an uncommon summer resident in that area.

Sierra County: no record

Status: No serious decline of the black hawk has been noted in New Mexico, but without doubt the species has decreased to some extent in recent decades. It is apparently limited by availability of riparian habitat and may suffer some losses due to human persecution.

DONA ANA COUNTY

BLACK HAWK



5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

Contour Interval 200 feet

With Supplementary Contours at 100 foot Intervals

OSPREY
Pandion haliaetus carolinensis State-Group 2

Habitat: Since ospreys feed almost exclusively on fish they are usually found near streams or bodies of water that have an abundant fish supply. They nest in forest, strips of timber along streams or open country near extensive bodies of clear water. The usual osprey nest site is on a dead snag in or near the water and tall enough to provide security from predators and good visibility of the surrounding area (Johnson, et al. 1973; Roberts 1969). It may also nest on pinnacles or cliffs (Ligon 1961).

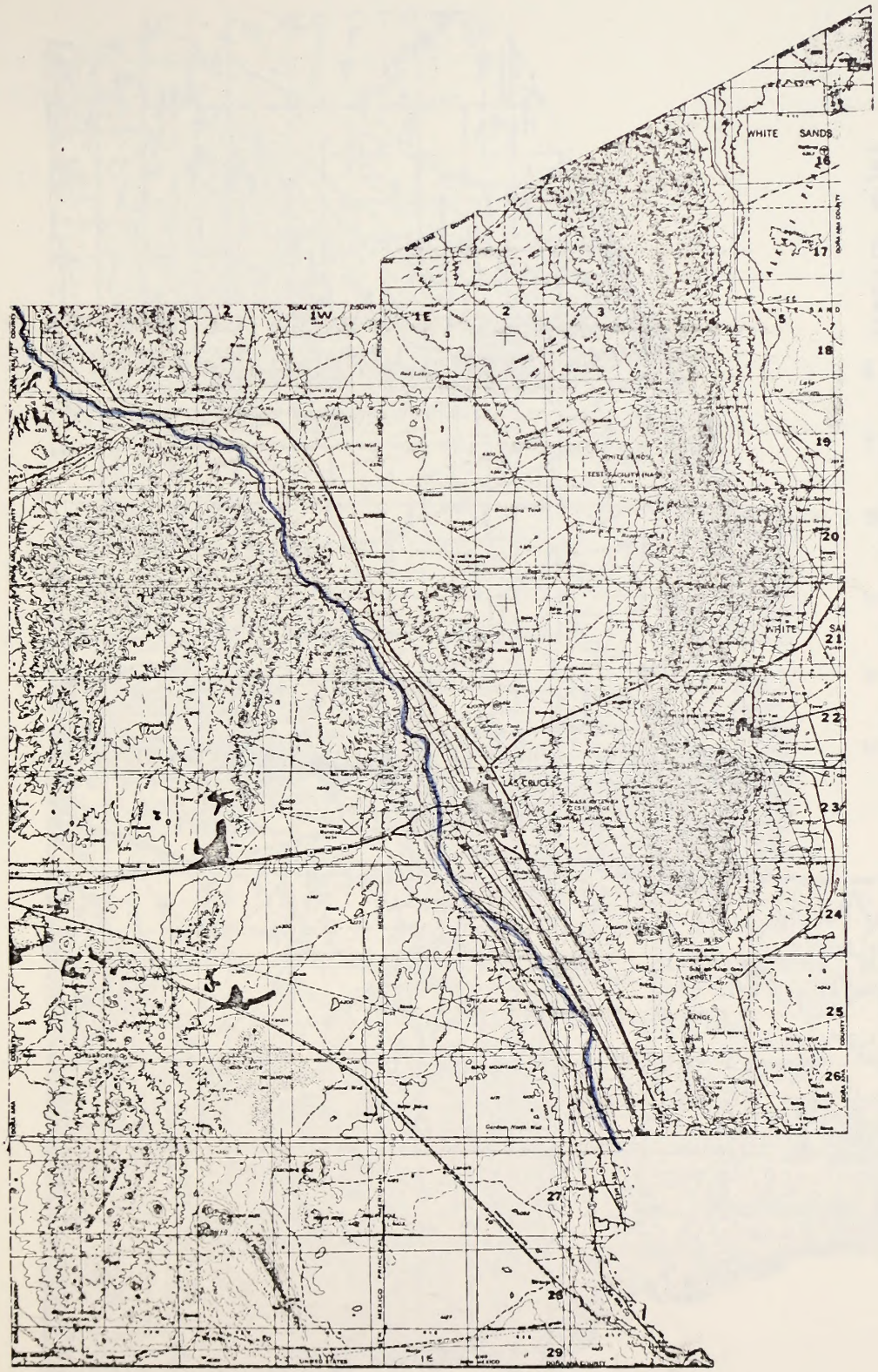
Distribution: The osprey is not known to breed in New Mexico. The species occurs widely throughout New Mexico as a spring and autumn migrant and is considered to be rare to locally common, mainly near water (Hubbard 1970).

Dona Ana County: Fort Thorn (Hatch) (Bailey 1928)
migration (Hubbard 1970)

Sierra County: 1974-one bird at Elephant Butte, 7/9
(NMOS Field Notes)
migration (Hubbard 1970)

Status: The osprey has declined throughout its range in recent years. Many factors are responsible. Some are only locally important; others may have an impact on nearly all breeding birds. The major factor seems to be the effects of organo-chlorine pesticide residues which concentrate in fish (Koplin 1971). These interfere with calcium metabolism and cause nesting failure due to eggshell breakage. Loss of nesting sites by deterioration or forestry practices may also be important. Human activity may cause direct loss through persecution and indirect loss from disturbance and habitat degradation (Kahl 1972). In New Mexico the primary problems are persecution and degradation of streams with subsequent diminished food supplies.

DONA ANA COUNTY OSPREY



5 0 5 10 15 20 STATUTE miles

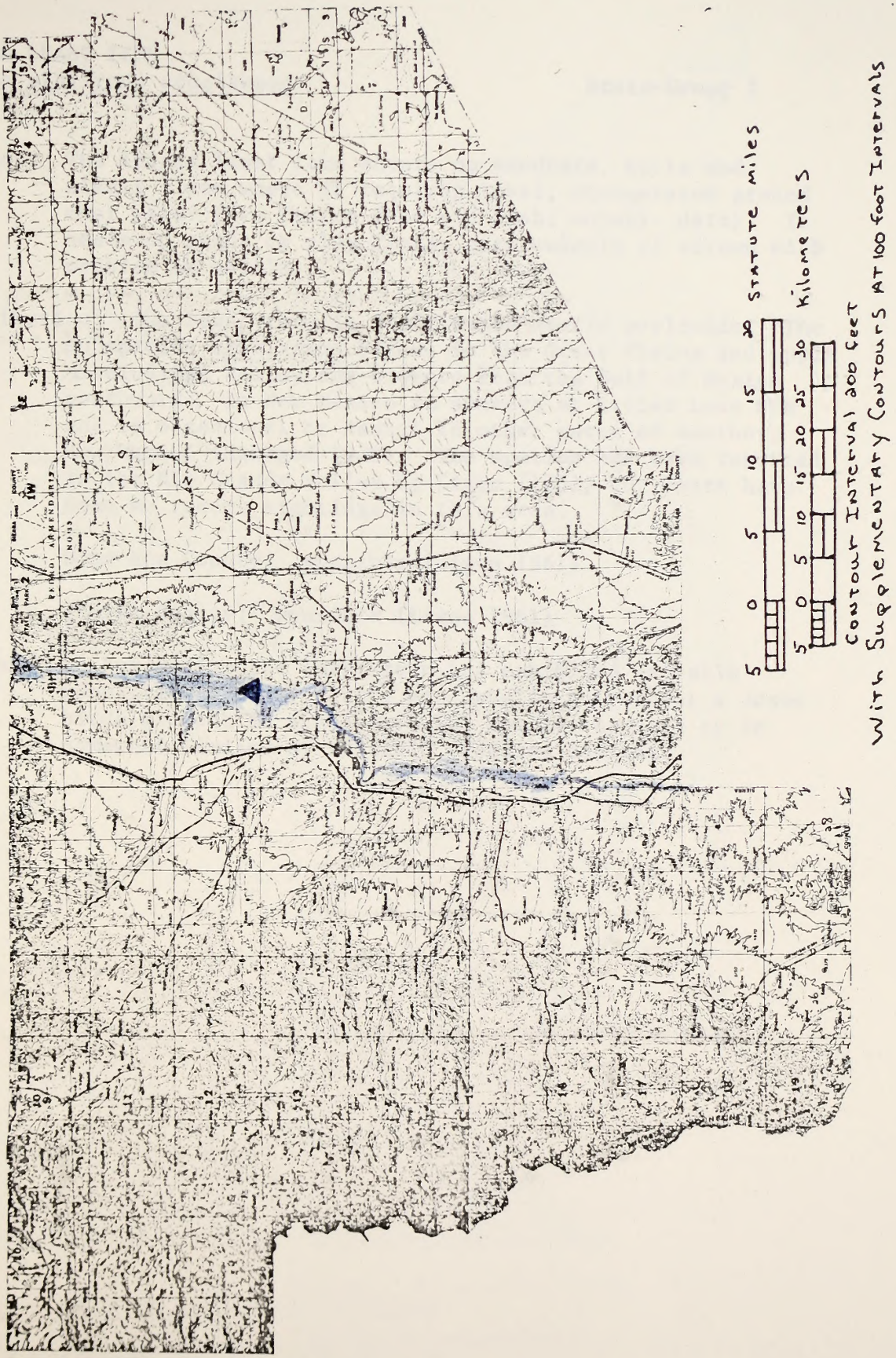
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

OSPREY



INLAND LEAST TERN
Sterna albifrons athalassos State-Group 2

Habitat: The inland least tern occurs on sandbars, spits and alkali flats where it requires level, unvegetated ground near water (New Mexico Game and Fish, unpubl. data). It nests on sandy or clay flats, particularly if strewn with pebbles or shells.

Distribution: The least tern is distributed nearly worldwide. The subspecies athalassos breeds in the Great Plains and upper Mississippi Valley and winters from the Gulf of Mexico southward. In New Mexico it summers at Bitter Lake NWR and is occasional or casual in other parts of southern New Mexico (Hubbard 1970). The species has been reported in the Rio Grande Valley by Ligon (1961) but there have been no recent sightings in this area.

Dona Ana County: possible (Ligon 1961)

Sierra County: possible (Ligon 1961)

Status: In New Mexico the least tern has exhibited variable population trends. There are usually only about a dozen birds present in a season. The species appears to be somewhat limited by suitable breeding habitat.

DONA ANA COUNTY

LEAST TERN

5 0 5 10 15 20 STATUTE miles

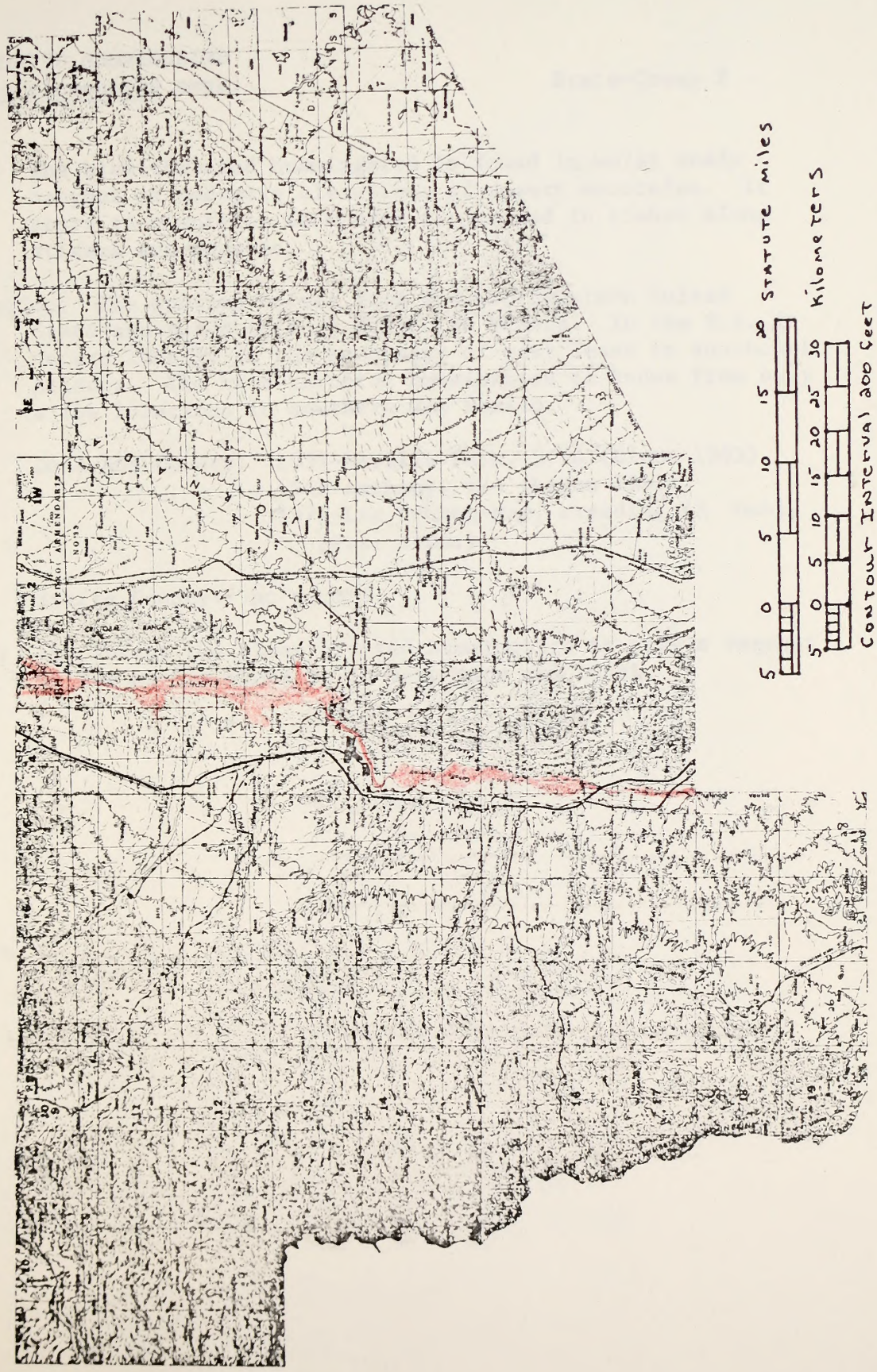
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

LEAST TERN



BLUE-THROATED HUMMINGBIRD
Lampornis clemenciae sspp. State-Group 2

Habitat: The blue-throated hummingbird is found in moist shady canyons at moderate elevations of desert mountains. It nests in mountains on wooded slopes and in timber along streams and canyons.

Distribution: The species occurs from the southwestern United State southward through Mexico to Oaxaca. In the U.S. it occurs locally in the mountains of west Texas to southeast Arizona. The blue-throated hummingbird is known from only a few locations in southern New Mexico.

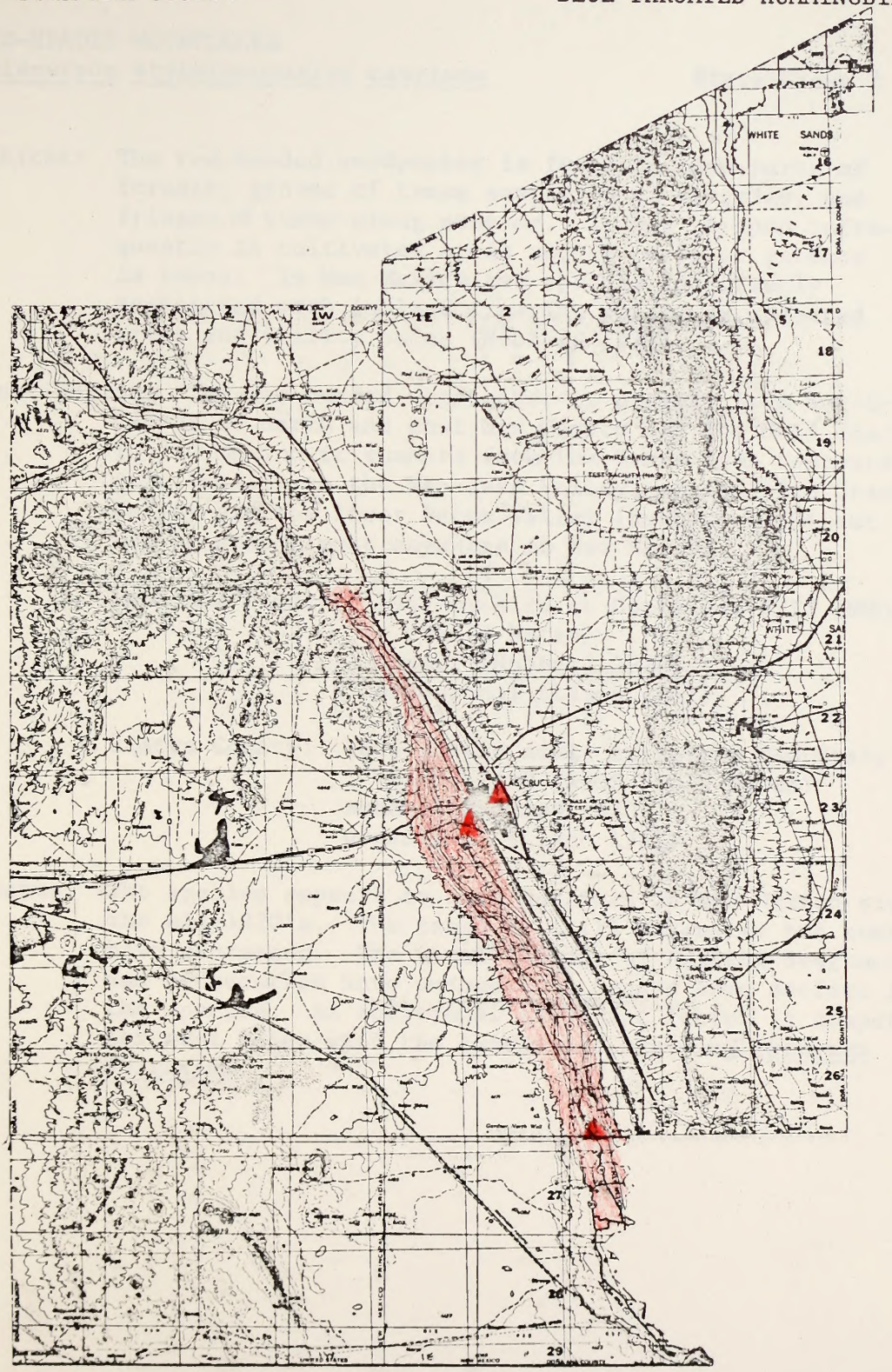
Dona Ana County: 1934-Mesilla Park, 5/16 (Ligon 1961)
1941-Anthony, 5/4 (Ligon 1961)
1974-Las Cruces-May, breeding (R. Wahl, pers. comm.)

Sierra County: no record

Status: At present the blue-throated hummingbird is only a vagrant in New Mexico where it is very rare and local.

DONA ANA COUNTY

BLUE-THROATED HUMMINGBIRD



RED-HEADED WOODPECKER
Melanerpes erythrocephalus caurinus State-Group 2

Habitat: The red-headed woodpecker is found in open parts of forests, groves of trees scattered on prairies, and fringes of timber along streams. It may be seen infrequently in cultivated areas and in yards or gardens in towns. In New Mexico the species is strictly associated with lowland riparian woodlands, planted trees and utility poles (Hubbard 1970).

Distribution: The red-headed woodpecker is present from southern Canada to north and east New Mexico and the Gulf coast. In New Mexico it summers from the Texas line westward very locally to the San Juan Valley, central Rio Grande Valley and the lower Pecos Valley (Hubbard 1970) but may be seen almost anywhere in New Mexico.

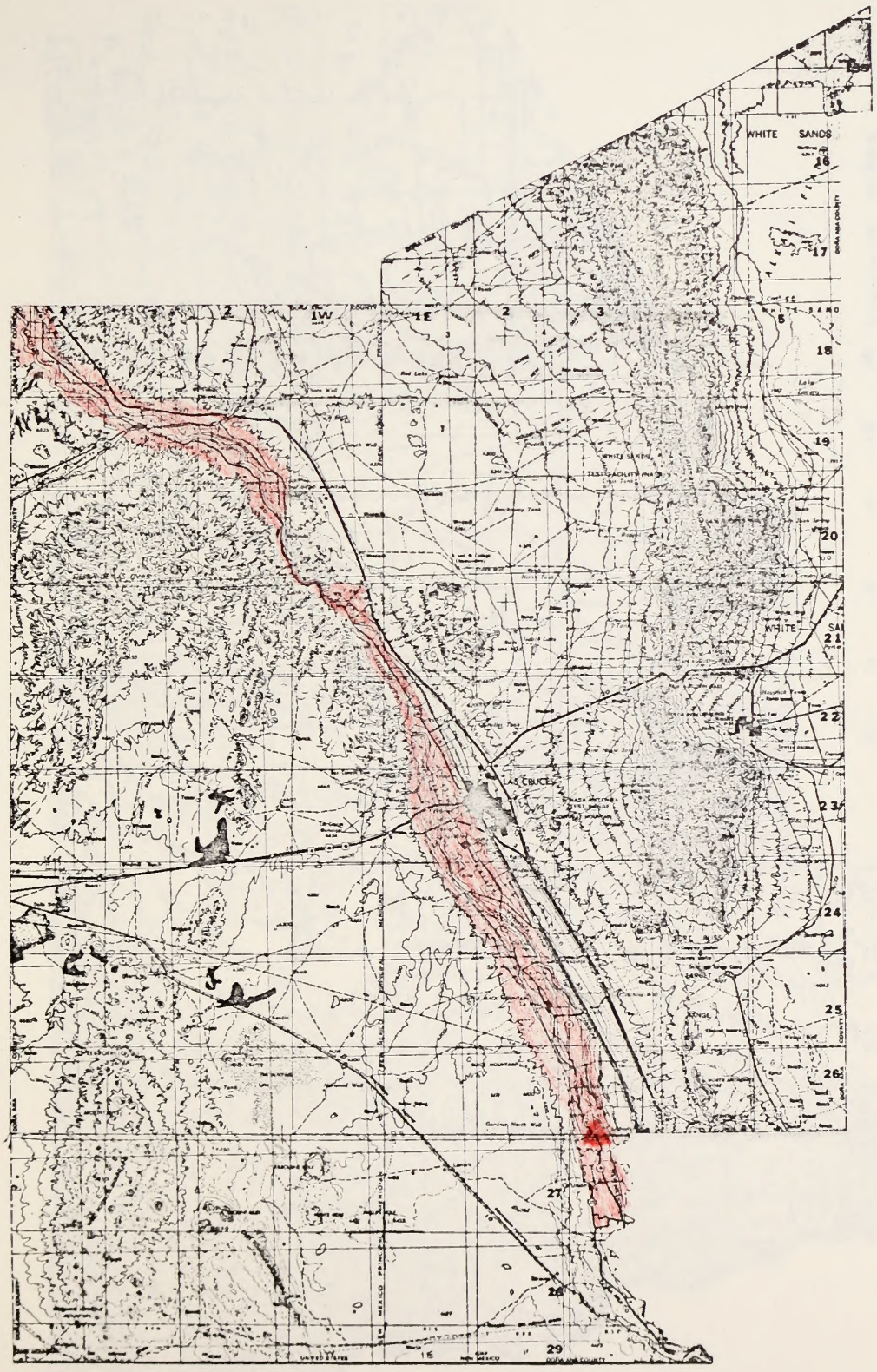
Dona Ana County: 1964-one bird at Corrales, 7/13 (NMOS Field Notes)
summer (Hubbard 1970)
occasional (Ligon 1961)

Sierra County: 1976-single adult at Percha Dam State Park, 2/29 (NMOS Field Notes)
summer (Hubbard 1970)
occasional (Ligon 1961)

Status: The species appears to have declined in New Mexico since the mid-1920's. The range is still extensive but numbers have decreased. The usual factors of habitat destruction and persecution have undoubtedly caused some decline in the species. An additional important factor is competition for nest holes with the introduced starling (Sturnus vulgaris).

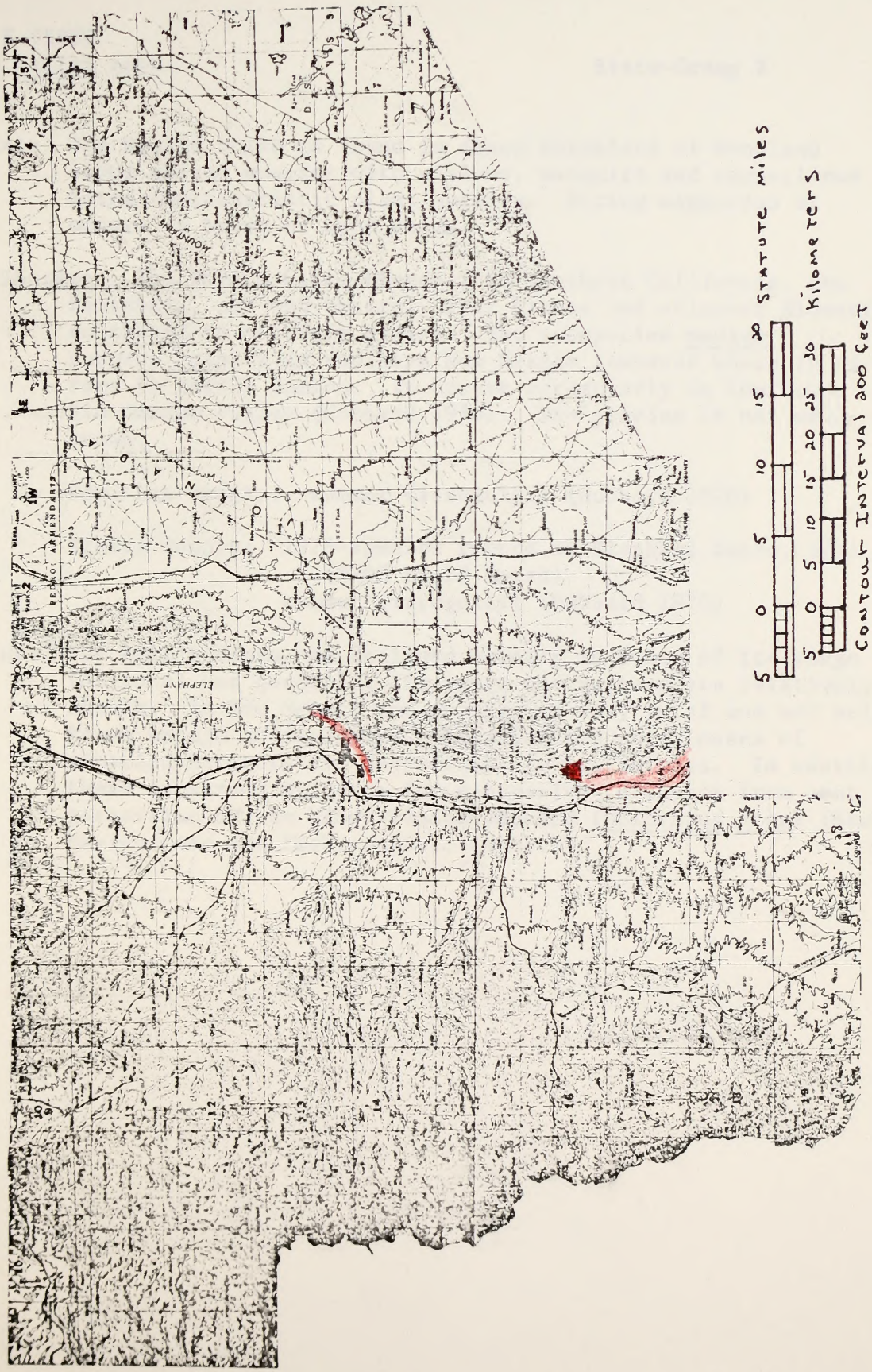
DONA ANA COUNTY

RED-HEADED WOODPECKER



SIERRA COUNTY

RED-HEADED WOODPECKER



BELL'S VIREO
Vireo bellii sspp. State-Group 2

Habitat: The Bell's vireo is found in dense shrubland of woodland along stream courses with willows, mesquite and seepwillows being characteristic plant species. During migration it occurs in brush or open woods.

Distribution: The Bell's vireo breeds from southern California, the Southwest, and the central Great Plains and adjacent Midwest southward to northern Mexico. The subspecies medius summers locally in southern New Mexico lowlands where it is rare to fairly common. It occurs irregularly in the lower Rio Grande Valley (Hubbard 1970). The species is not well known.

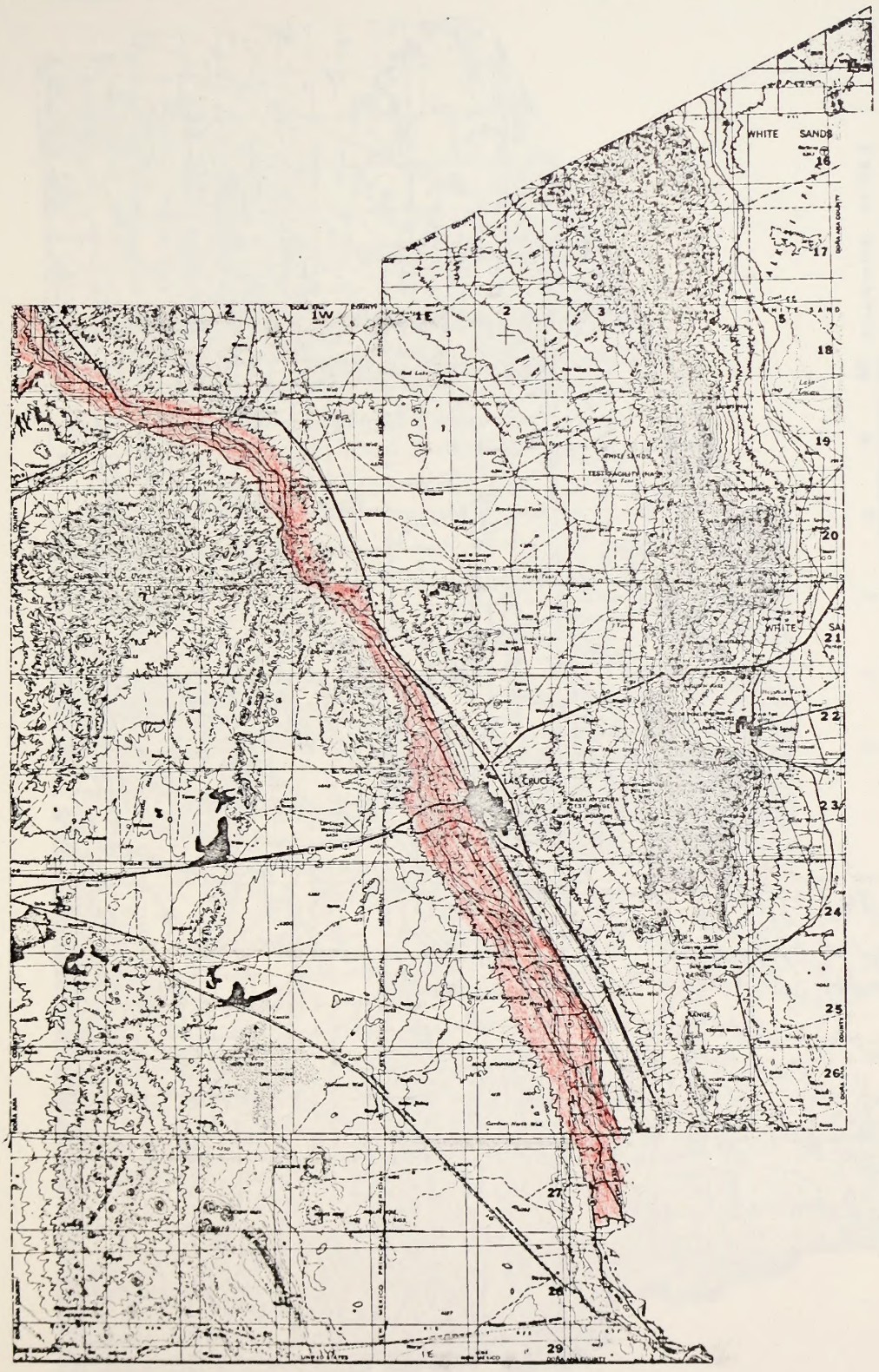
Dona Ana County: summer (irregular) (Hubbard 1970)

Sierra County: 1975-species record at Elephand Butte, 5/11 (NMOS Field Notes)
summer (irregular) (Hubbard 1970)

Status: The Bell's vireo has declined locally in parts of its range (Arizona) but generally its range and numbers are relatively stable. In New Mexico the species is very local and not well known enough to determine population trends. Losses of riparian habitats are detrimental to its success. In addition, there is strong evidence for a negative influence from nest parasitism by the brown-headed cowbird (Molothrus ater) (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY

BELL'S VIREO



5 0 5 10 15 20 STATUTE MILES

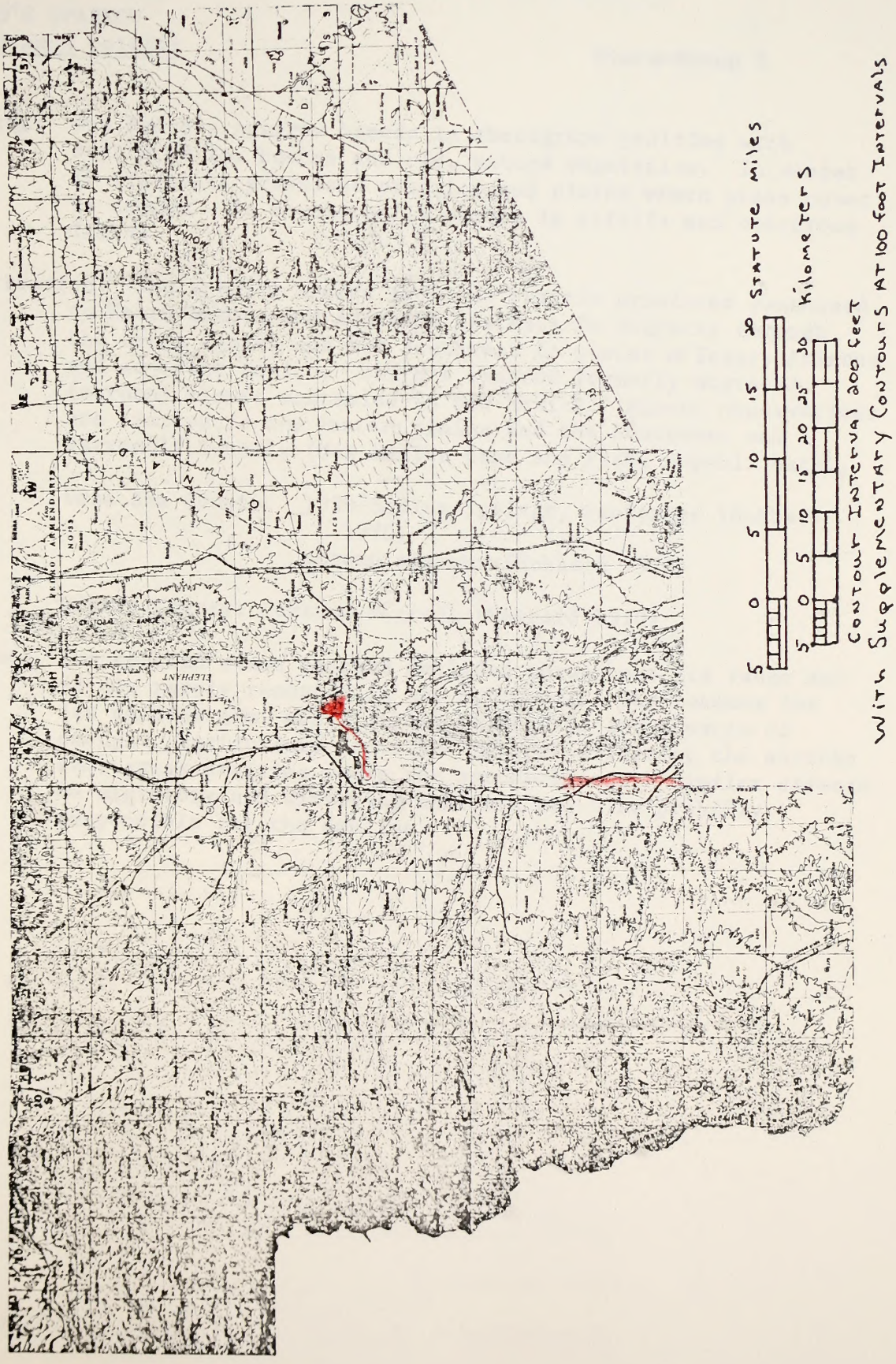
5 0 5 10 15 20 25 30 KILOMETERS

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

BELL'S VIREO



BAIRD'S SPARROW
Ammodramus bairdii State-Group 2

Habitat: The Baird's sparrow breeds in shortgrass prairies with scattered low bushes and old, matted vegetation. In winter it frequents grassland prairies and plains where grass cover is densest. It occasionally occurs in alfalfa and overgrown fields.

Distribution: The species breeds from the prairie provinces southward to North Dakota and adjacent states. It migrates through the Great Plains and the Southwest to winter in Texas, Arizona and adjacent Mexico. Baird's sparrow formerly migrated (autumn) almost statewide in New Mexico. Recent observations are limited to the eastern plains and the Southwest and extremely locally (New Mexico Game and Fish, unpubl. data).

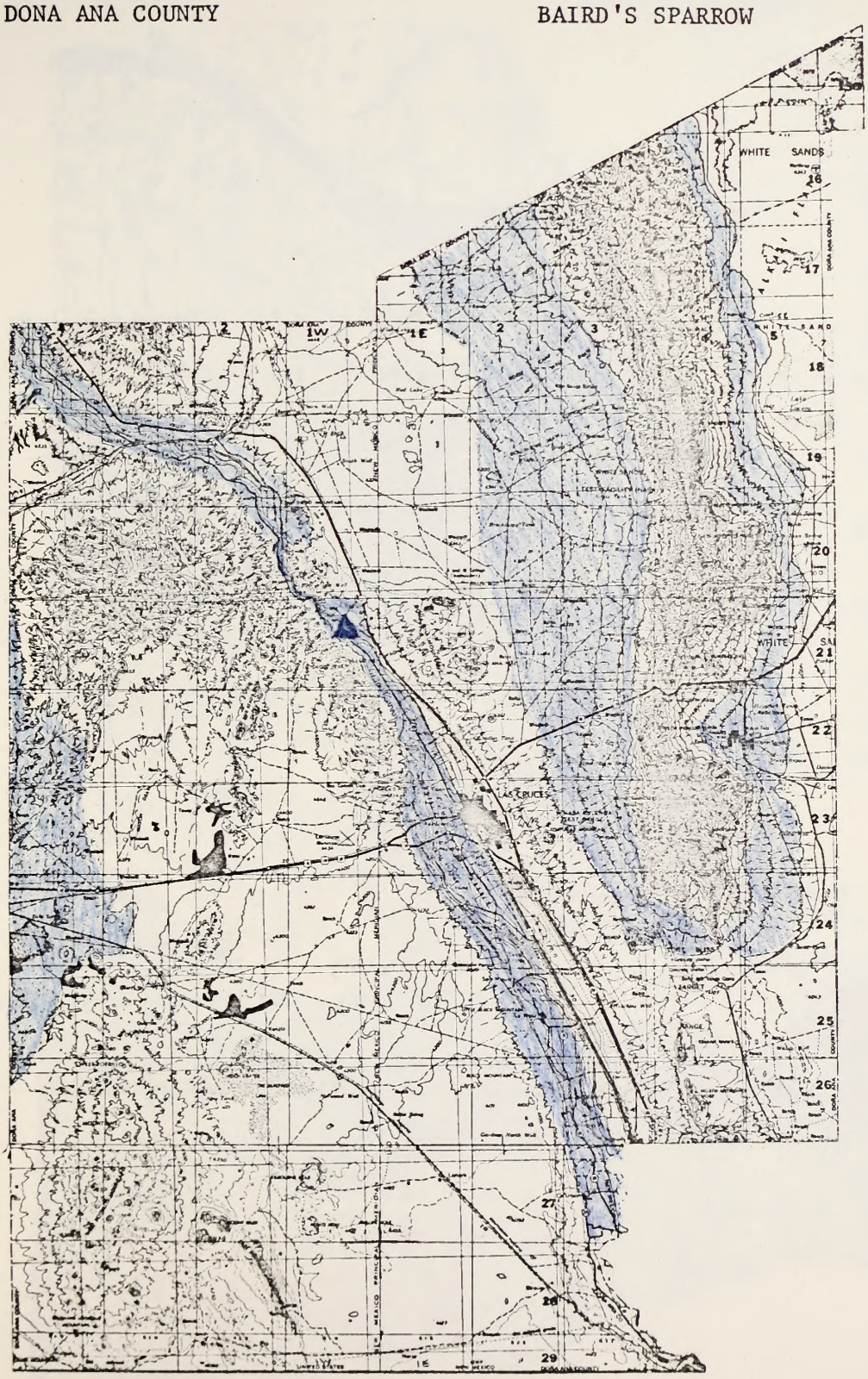
Dona Ana County: 1939-Radium Springs, September (Hubbard 1970)
autumn migrant (Hubbard 1970)

Sierra County: autumn migrant (Hubbard 1970)

Status: The species seems to have declined throughout its range and is now rarely reported in the Southwest. The reasons for its decline are most likely related to the impacts of drought, agriculture and other factors affecting the shrubby shortgrass prairies where the species breeds. Similar effects on migratory and wintering habitats are also probably responsible for the decline.

DONA ANA COUNTY

BAIRD'S SPARROW



5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

BAIRD'S SPARROW

McCOWN'S LONGSPUR
Calcarius mccowni

State-Group 2

Habitat: The McCown's longspur feeds and nests on semiarid ground where grass is very short and/or sparse. Typical plants include sage, buffalo grass and prickly pear. It winters on drylake beds, plowed fields and plains where grass or stubble is less than two inches high (Oberholser 1974).

Distribution: The species breeds from the Prairie provinces southward in shortgrass prairie to northeast Colorado and southwest Nebraska. It winters from eastern Colorado and Kansas to north Sonora, Durango and south Texas. Before the 1900's the McCown's longspur was widespread and more numerous than at present in New Mexico. It has been infrequently reported since 1930 (Hubbard 1970). The species winters in the east and south and the most recent records of its occurrence are in the southern half of the state.

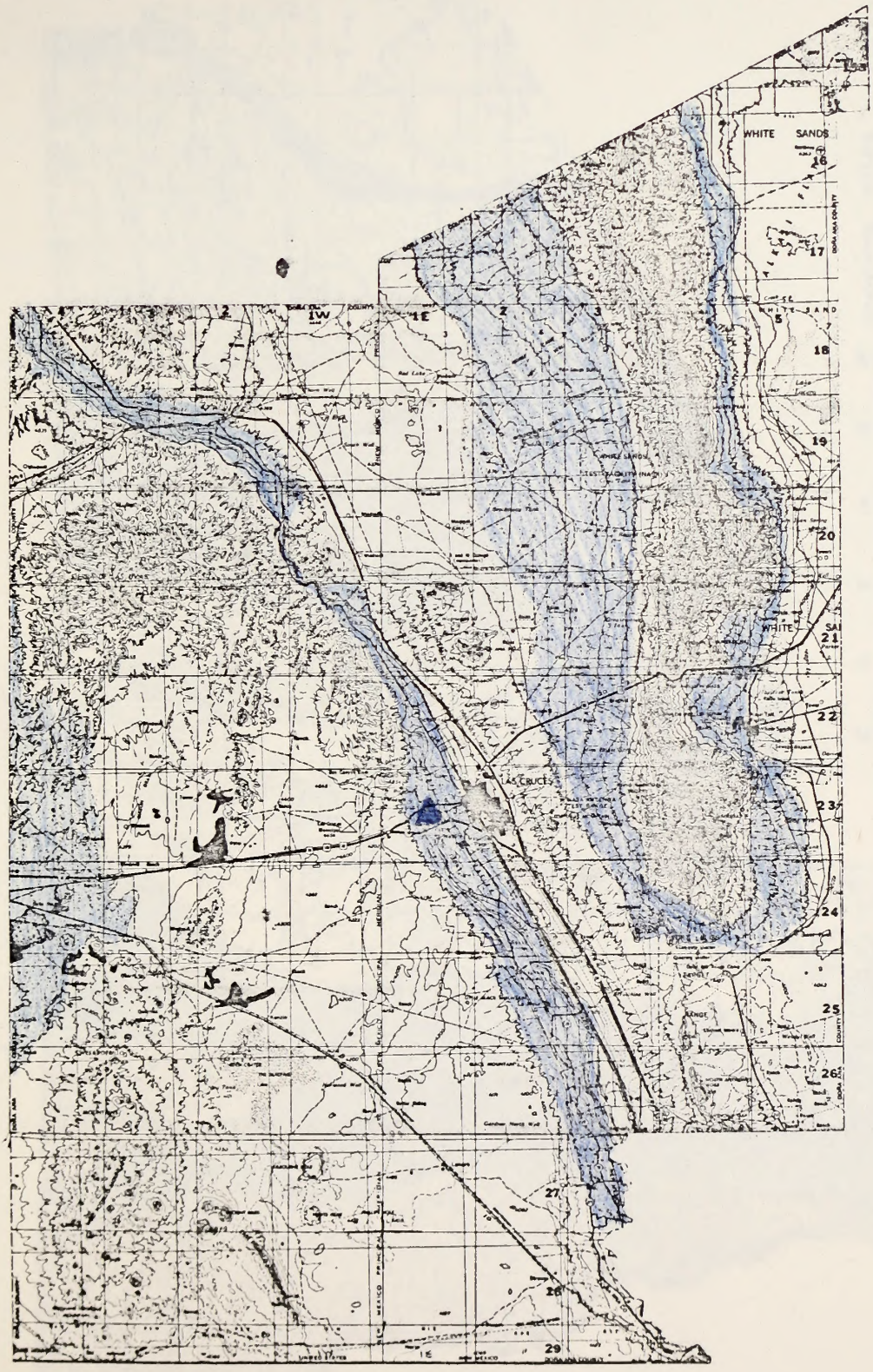
Dona Ana County: 1930-near Las Cruces (Hubbard 1970)
winter (Hubbard 1970)

Sierra County: 1975-unsubstantiated record of birds giving calls different from Chestnut-collared longspur, near Nutt, 1/21 (NMOS Field Notes)
regular occupant-Nutt area (New Mexico Game and Fish, unpubl. data)
migration (possibly only formerly) (Hubbard 1970)

Status: The McCown's longspur has declined on both its breeding and wintering grounds since the early part of the century. The declines may be partially attributable to habitat degradation from drought, agriculture and overgrazing. Associated drops in winter seed crops may be important on wintering areas.

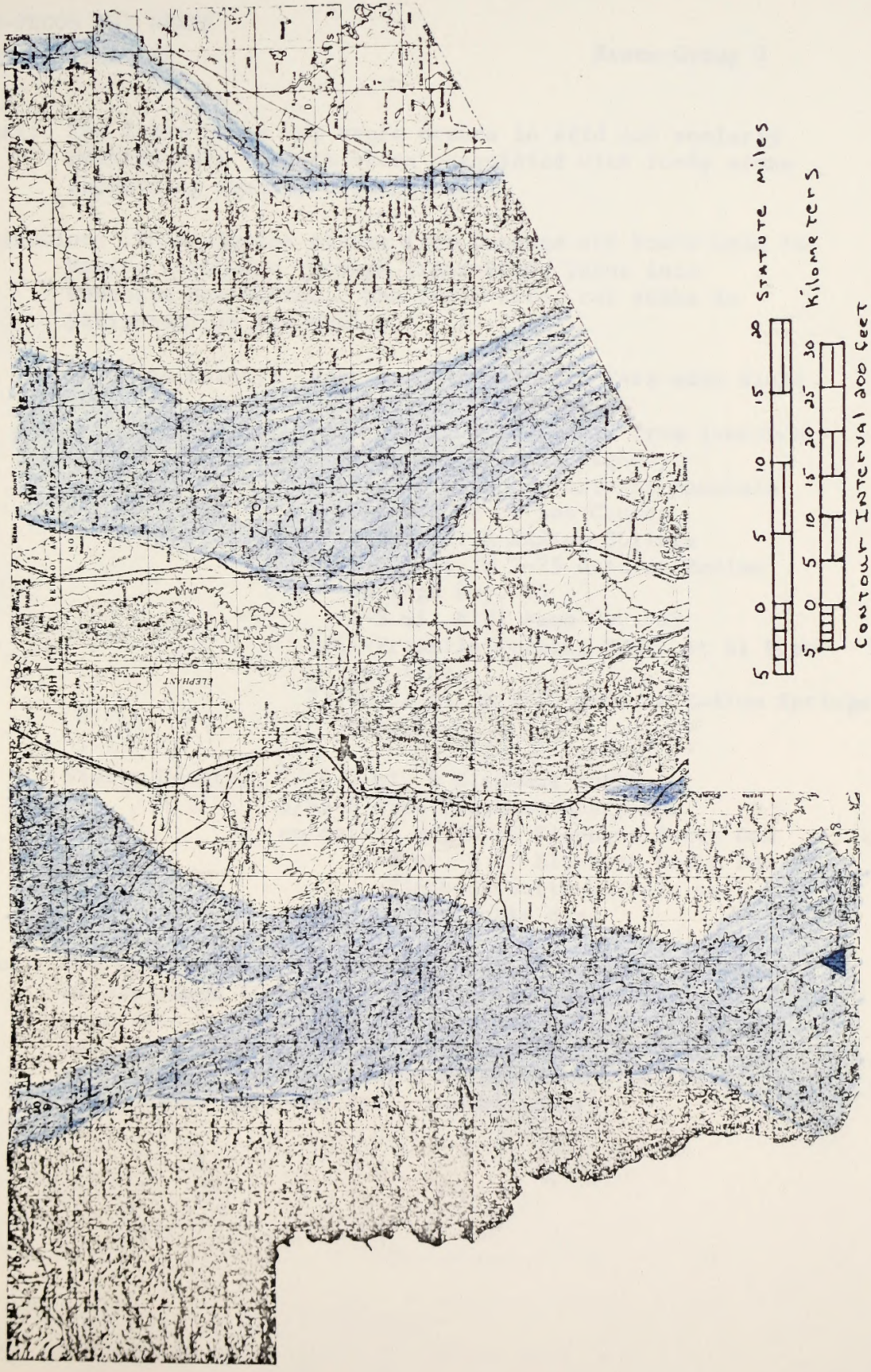
DONA ANA COUNTY

McCOWN'S LONGSPUR



SIERRA COUNTY

McCOWN'S LONGSPUR



TRANS-PECOS RAT SNAKE
Elaphe subocularis State-Group 2

Habitat: The Trans-Pecos rat snake occurs in arid and semiarid environments and is often associated with rocky areas supporting shrubby vegetation.

Distribution: This species occurs from Durango and Nuevo Leon in Mexico northward through Trans-Pecos Texas into southern New Mexico. The Trans-Pecos rat snake is peripheral in New Mexico.

Dona Ana County:
9/47-near San Augustin Pass-east slope of Organ Mountains
6/64-O'Hara Road, 2 mi. from junction with White Sands Highway
7/65-west side of Tortugas Mountain
7/67-2 mi. NE of Las Cruces
9/74-4.5 mi. N Radium Springs
9/75-6.1 mi. N I-25 exit at Radium Springs Hwy. 85
-3 mi. N El Paso Hwy. 85
6/67-Franklin Mounts, NM404 at El Paso gas line
7/76-8.1 mi. N I-25 exit at Radium Springs Hwy. 85

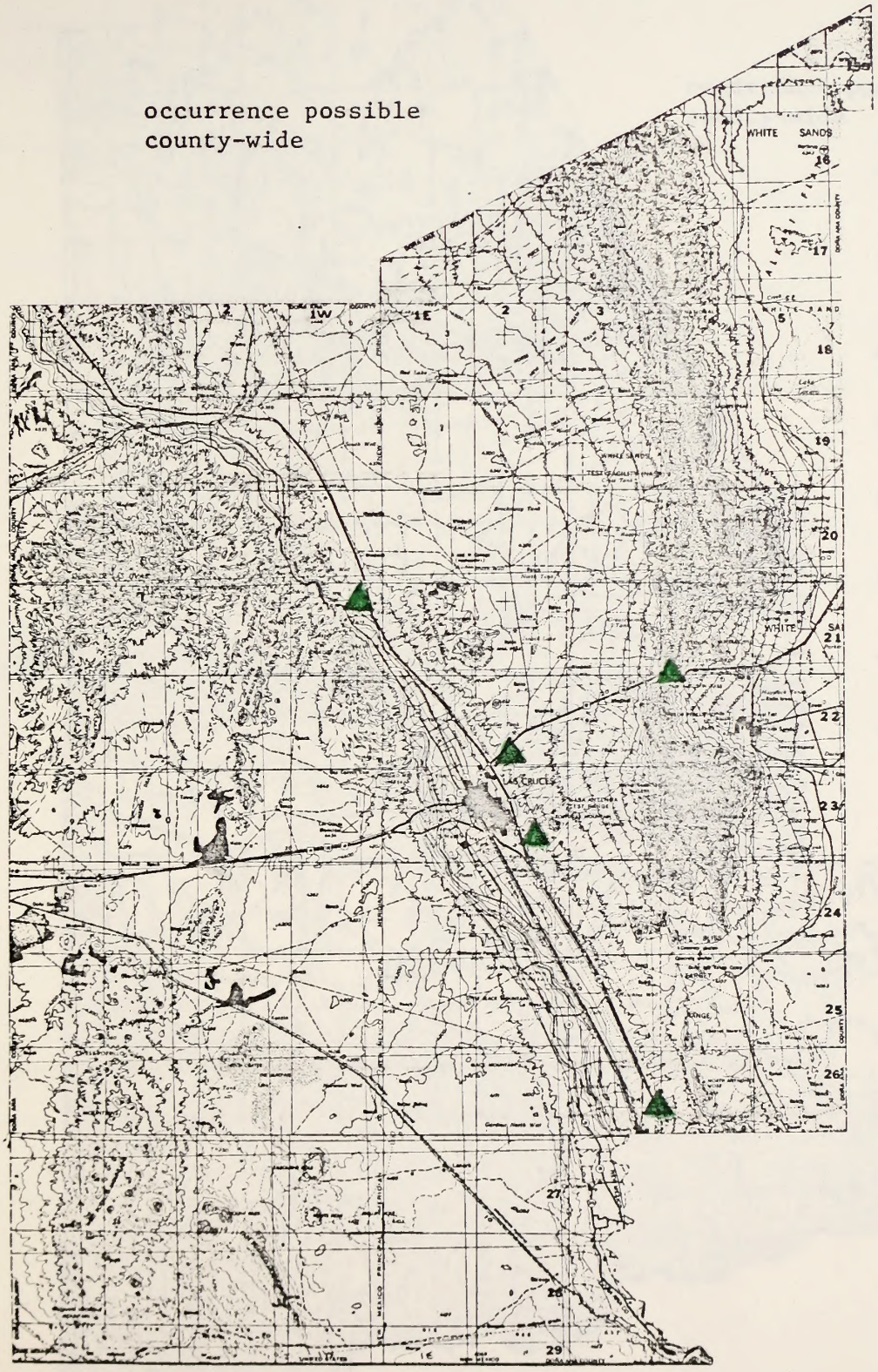
Sierra County:
7/64-2 mi. E Elephant Butte
5/65-E side Elephant Butte Dam
no date-8 mi. E of Elephant Butte Dam
-3 mi. E of Elephant Butte Dam
-Elephant Butte-between main and subordinate dams

Status: The species is mentioned as locally common in some parts of its range (Conant 1975). In New Mexico it is of uncertain but probably low population density. Live specimens currently bring high prices in the pet trade and consequently are sought by commercial collectors (New Mexico Game and Fish, unpubl. data).

DONA ANA COUNTY

TRANS-PECOS RAT SNAKE

occurrence possible
county-wide



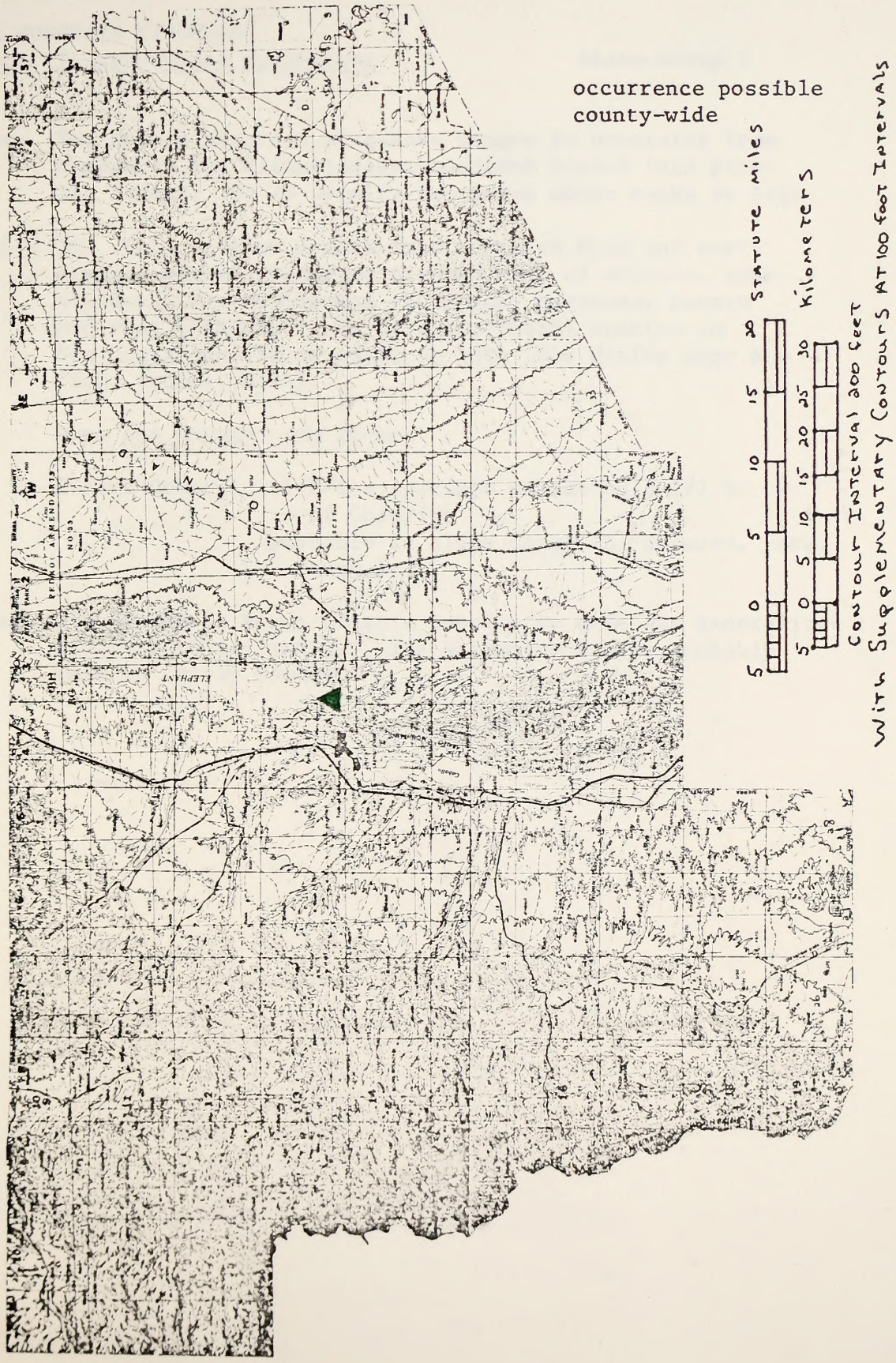
5 0 5 10 15 20 STATUTE miles

5 0 5 10 15 20 25 30 Kilometers

Contour Interval 200 feet
With Supplementary Contours at 100 foot Intervals

SIERRA COUNTY

TRANS-PECOS RAT SNAKE



SONORA MOUNTAIN KINGSNAKE
Lampropeltis pyromelana pyromelana State-Group 2

Habitat: The Sonora mountain kingsnake ranges in mountains from chapparal and pinon-juniper woodland upward into pine-fir forest. It is usually concealed under rocks or logs.

Distirbution: This species occurs from northern Utah and east-central Nevada southward through most of Arizona, into southwest New Mexico and south into northeast Sonora and west Chihuahua. It is a peripheral species in New Mexico and is uncommon to rare (New Mexico Game and Fish, unpubl. data).

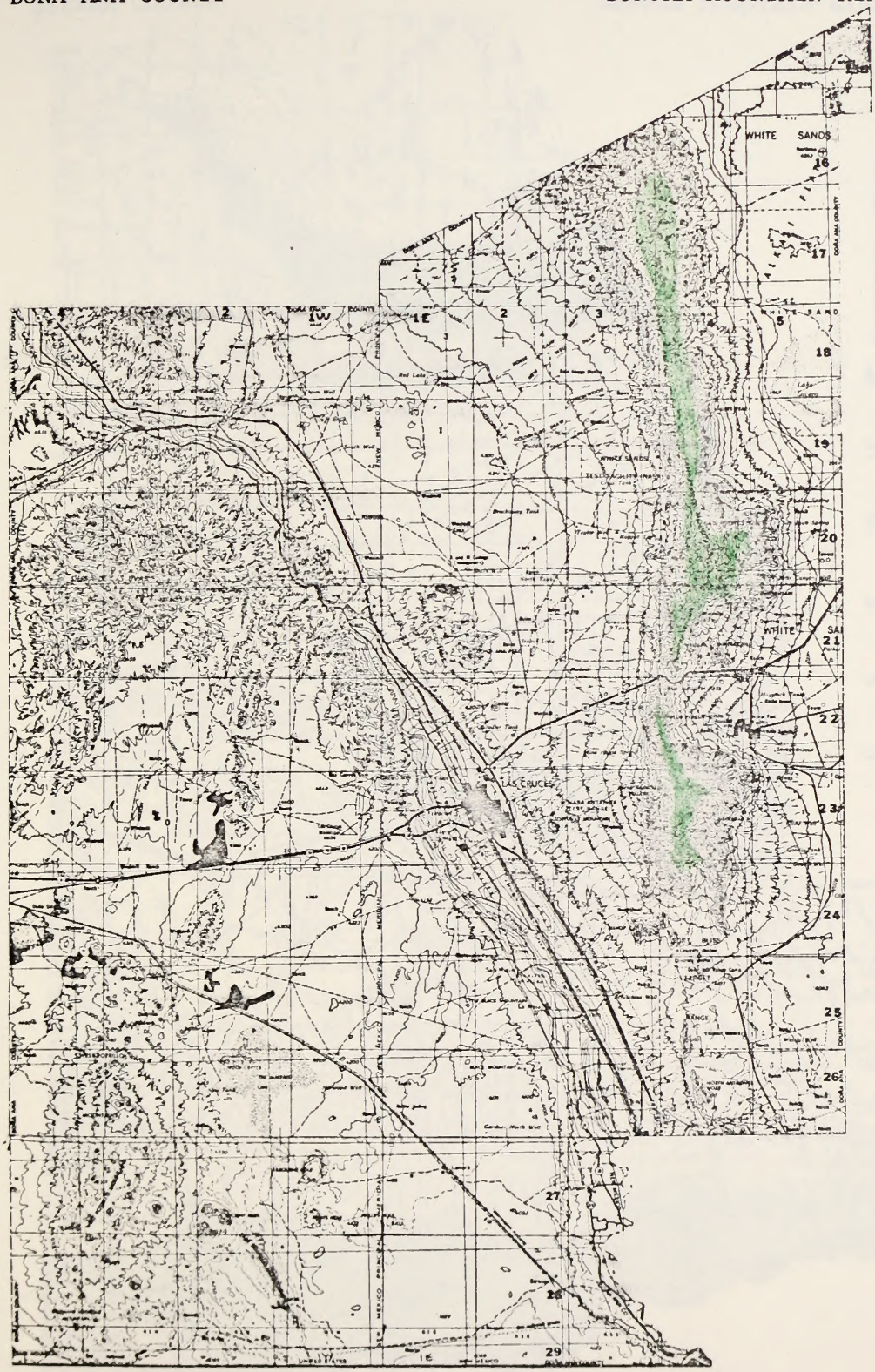
Dona Ana County: no record

Sierra County: 1975-one specimen collected 3-1/2 mi. W of Chloride
probable in Black Range (B. Hayward, pers. comm.)

Status: Not enough is known of this species to make any generalizations about its status. Its secretive habits probably make it fairly secure.

DONA ANA COUNTY

SONORA MOUNTAIN KINGSNAKE



5 0 5 10 15 20 STATUTE miles

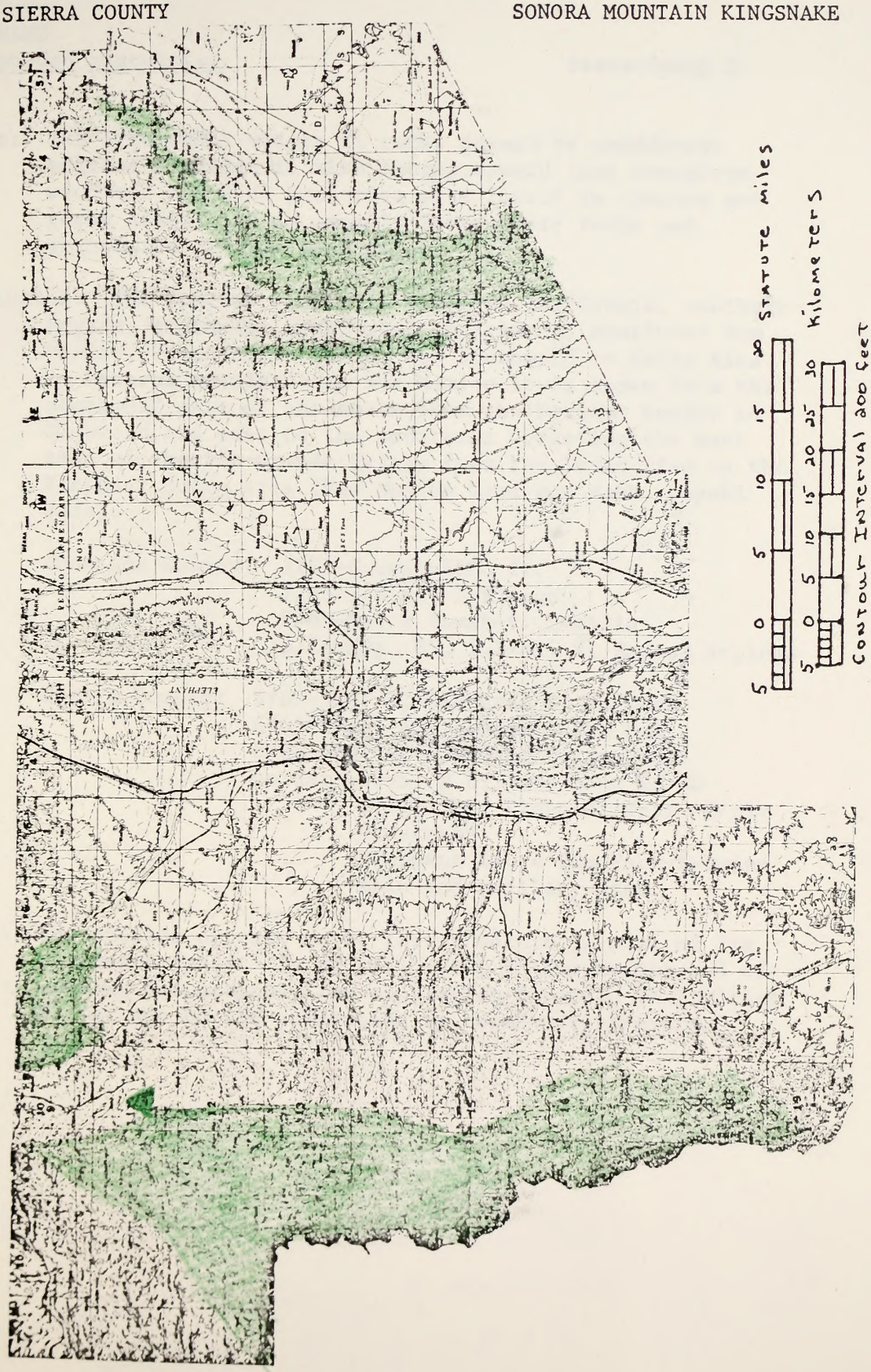
5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET

WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

SIERRA COUNTY

SONORA MOUNTAIN KINGSNAKE



LYRE SNAKE
Trimorphodon biscutatus

State-Group 2

Habitat: The lyre snake occurs in rocky desert or semidesert regions although it also ranges upward into evergreen woodland and even ponderosa pine forest in canyons and rocky areas. It is usually found where rocks and vegetation provide good cover.

Distribution: The species occurs in southern California, southern Nevada, southwest Utah, much of Arizona, southwest New Mexico, Trans-Pecos Texas, and southward to Costa Rica in Central America. In New Mexico it is known from the southwest part of the state from the Mexican border to Glenwood and east to the mountains bordering the east side of the Rio Grande Valley from the Texas line to the Elephant Butte area (New Mexico Game and Fish, unpubl. data).

Dona Ana County: 3/61-Cuevas-5500 ft.
7/65-1/2 mi. E Rincon
9/69-Cox's Ranch-S. Mesilla
5/76-Hwy. 85, 5.2 mi. N. Radium Srpings

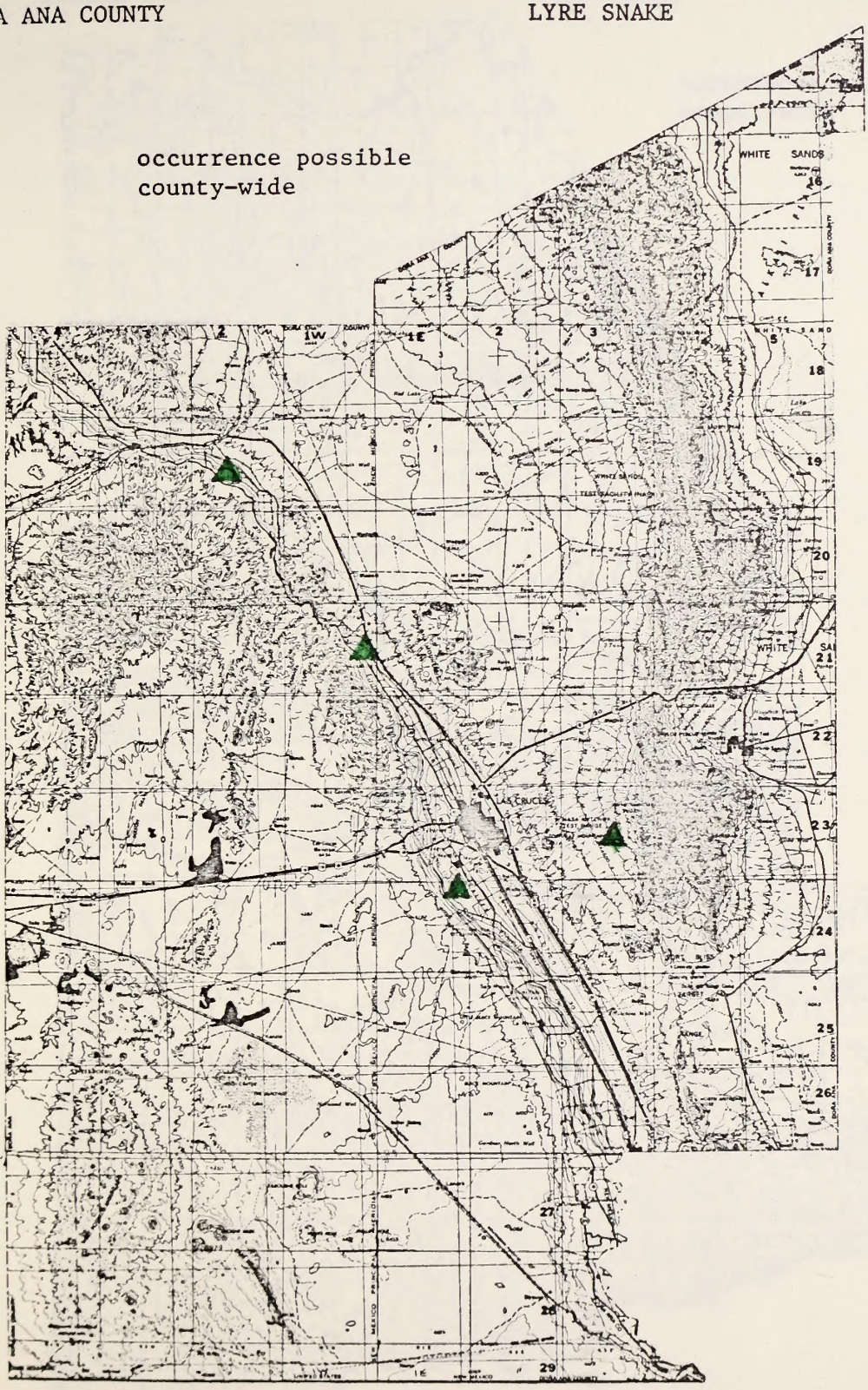
Sierra County: 5/65-500' SE Elephant Butte Dam
6/65-1 mi. E Elephant Butte Dam
6/65-500' NE Elephant Butte Dam
no date-3 mi. E Hillsboro on NM 90
-2.3 mi. E. Elephant Butte-Engle Crossroad
-Elephant Butte Dam Park-between main and axillary dams

Status: The species appears to be fairly secure in most of its extensive range. It is peripheral in New Mexico and of unknown but probably low population density. A limiting factor may be its collection by commercial traders.

DONA ANA COUNTY

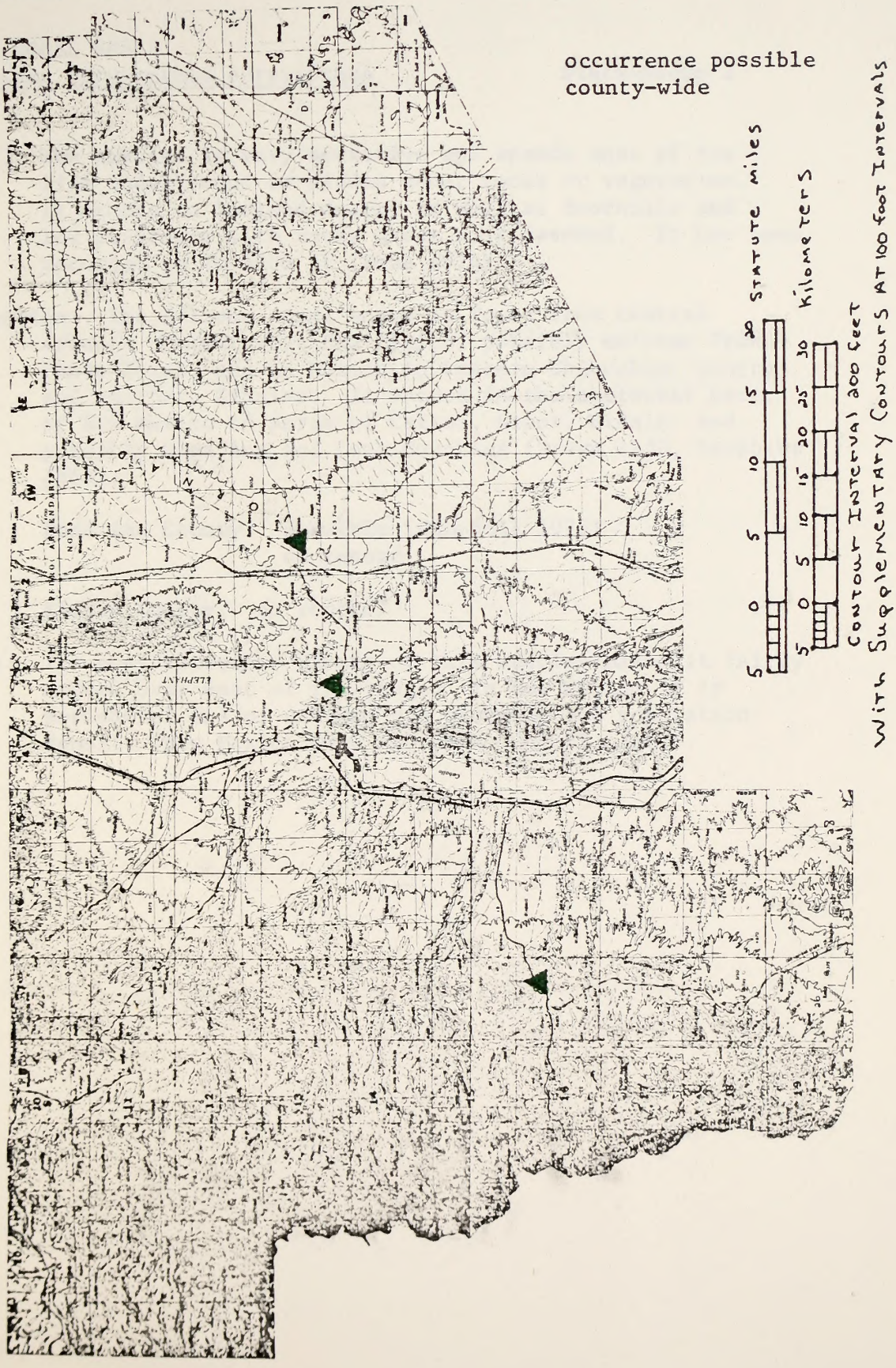
LYRE SNAKE

occurrence possible
county-wide



SIERRA COUNTY

LYRE SNAKE



ARIZONA CORAL SNAKE
Micruroides euryxanthus euryxanthus State-Group 2

Habitat: The species is very secretive and spends most of its life underground or hidden under rocks or vegetation. It occurs in lowland desert as well as foothills and low mountains with rocky areas most favored. It has been recorded up to 5900 ft (Roze 1974).

Distribution: The Arizona coral snake is found from central Arizona to southwest New Mexico, possibly extreme Trans-Pecos Texas, and in Mexico in western Chihuahua, Sonora, and southern Sinaloa. It occurs in the southwest part of New Mexico in parts of Catron, Grant, Hidalgo and possibly Dona Ana and Luna Counties (Brown 1950, Stebbins 1966).

Dona Ana County: possible (Campbell 1975)
no record

Sierra County: no record

Status: The most secretive nature of this species makes it fairly secure over most of its range. In New Mexico it is peripheral and of unknown but probably low population density (New Mexico Game and Fish, unpubl. data).

WHITE SANDS PUPFISH
Cyprinodon tularosa State-Group 2

Habitat: The White Sands pupfish is found in shallow, calm, highly mineralized water charged with alkali salt springs and sand and gravel bottoms. Associated with the springs are dense growths of salt grass and sedges along the edges (R. Suminski, pers. comm. and New Mexico Game and Fish, unpubl. data).

Distribution: This species is endemic to the Tularosa Basin of New Mexico and is known only from Malpais Spring, Mound Spring and Salt Creek (all on White Sands Missile Range) (Conway 1975 and R. Suminski, pers. comm.).

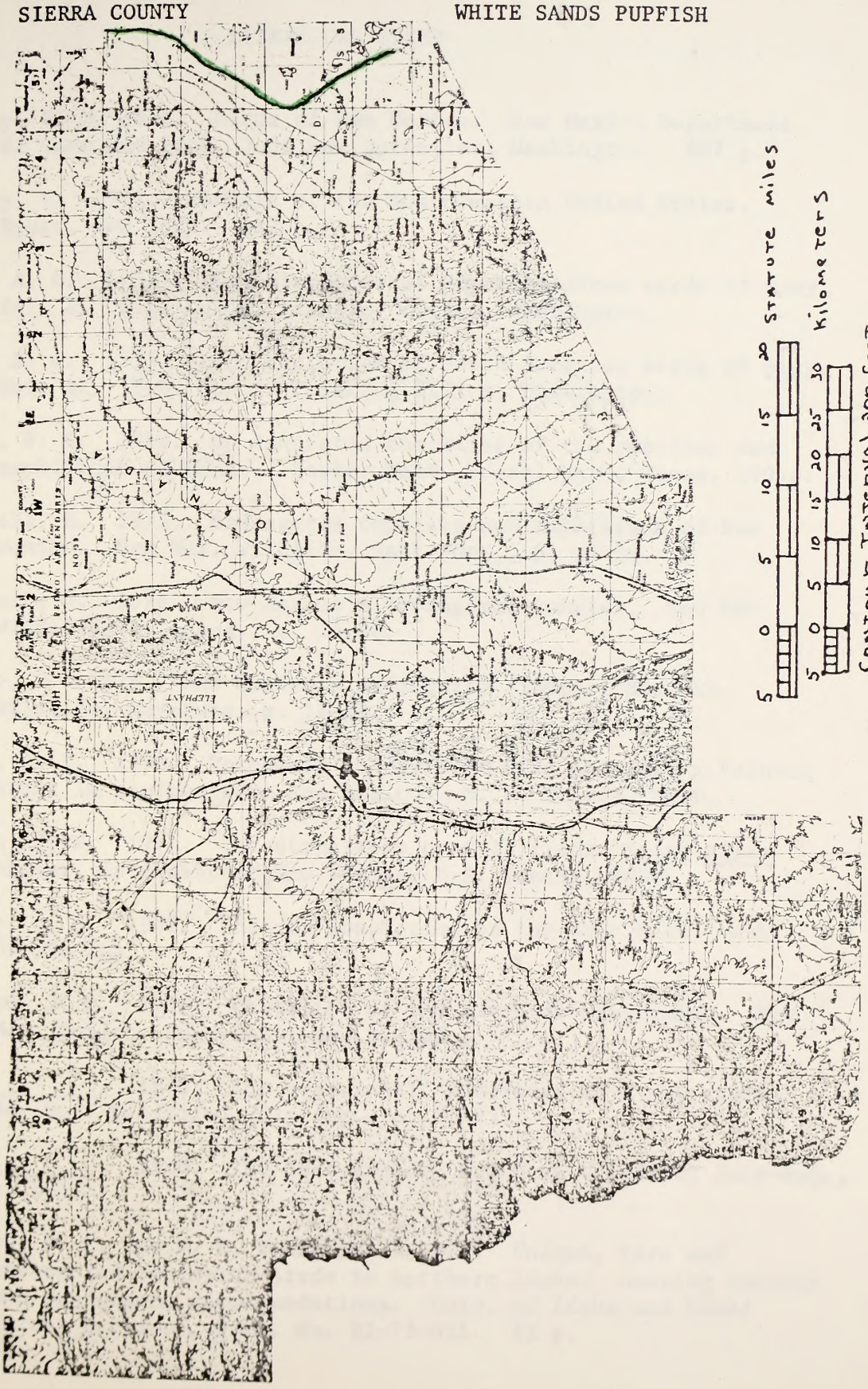
Dona Ana County: not present

Sierra County: Salt Creek, Malpais Spring, Mound Spring

Status: The species is abundant and presently stable in its limited range. Severe drought poses the most immediate threat to its continued success. This factor could be amplified by any habitat alteration as a result of overgrazing, road construction or other forms of disturbance.

SIERRA COUNTY

WHITE SANDS PUPFISH



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